

New Jersey's Renewable Portfolio Standard Rules

2009 Annual Report DRAFT FOR PUBLIC COMMENT



Prepared by the Office of Clean Energy
in New Jersey's Board of Public Utilities

February 8, 2010



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1. Executive Summary

The following report provides a summary of the results from compliance with the New Jersey Renewable Portfolio Standard (RPS) and a review of the regulatory changes affecting the RPS in 2009. The Office of Clean Energy in the New Jersey Board of Public Utilities (the Board) oversees implementation of RPS rules. Since the RPS rules have evolved over time with significant changes proposed, adopted and enacted in 2009, the Office of Clean Energy has issued this report toward providing decision makers, market participants and policy makers with information to judge the status of the RPS rules and the affected renewable energy markets.

The RPS rules, which are authorized by the Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 et seq., require electric power suppliers and basic generation service providers, referred to as “supplier/providers”, to include minimum percentages of renewable energy in the electricity they sell. The rules specify a separate minimum percentage for solar electric generation, for Class I renewable energy, and for Class II renewable energy. These minimum percentages increase over time to require greater REC retirement and demand for renewable energy. There are two methods by which a supplier/provider may meet the applicable minimum percentage requirement: by retiring renewable energy certificates (RECs), each representing the renewable energy attributes of a megawatt hour (MWh) of electricity; or by submitting alternative compliance payments (ACPs).

The RPS requires supplier/providers to submit compliance reports by October 1, four months after the close of each “reporting year” (RY) (N.J.A.C. 14:8-2.11). The compliance results summarized in this report covers RPS Reporting Year 2009 (RY09), which ended May 31, 2009. During RY09, slightly over 81 million megawatt hours of retail electricity was sold by supplier/providers. Retail sales in New Jersey’s regulated electricity markets rose over the previous year’s level, reversing the downward trend exhibited since RY06 sales peaked at over 84 million megawatt hours.

For Class I and Class II renewable energy, the RY09 minimum percentage requirements, 3.84% and 2.5% respectively, were met entirely through the retirement of Renewable Energy Certificates (RECs). This is the first time since RY05 that all compliance with Class I and Class II RPS requirements was achieved through retirement of RECs, with no use of ACPs. Over three million (3,127,491) NJ Class I RECs and over two million (2,039,035) NJ Class II RECs were retired toward RY09 compliance.

By contrast with the Class I and II compliance results, there were insufficient SRECs to meet the RY09 minimum percentage requirement for solar electric generation, which increased from 0.0817% in RY08 to 0.16% in RY09. The RPS required 130,267 SRECs and the market supplied only 75,532 SRECs for RY09 compliance. As a result, supplier/providers were required to make over \$38.9 million in SACP payments in order to comply with the RY09 solar energy RPS requirements. On November 10, 2009, consistent with the RPS rules at N.J.A.C. 14:8-2.10(e), the Board allocated these funds to the solar portion of the New Jersey Clean Energy Program’s Renewable Energy Incentive Program (REIP).

During 2009, the Board approved several important changes to the RPS rules and their administration. Key among the changes were the March 16, 2009 RPS rule amendments designed to reduce reliance upon rebates and increase the importance of SRECs in motivating investments in New Jersey solar electric generation. These changes included codifying an eight year schedule of SACP levels and the increase in the SACP level from \$300 per SREC to \$711 per SREC for RY09. The primary administrative change in RY09 was the transition from the Office of Clean Energy administered New Jersey Behind-the-Meter REC tracking and trading system to the use of the PJM-EIS Generation Attribute Tracking System for all REC activity undertaken toward RPS compliance. This transition was completed on October 1, 2009.

Another significant milestone in 2009 was the Board's approval of a long term solar contracting and financing program, originally referred to as SREC securitization, to be administered by three of the state's four Electric Distribution Companies (EDCs): JCP&L, ACE and RECO; and a continuation of the solar loan program offered by PSEG. The first solicitation for long term contracts in the JCPL and ACE programs was held in August, and resulted in the Board's approval of eight contracts totaling 1.5 MW of solar capacity for the award of purchase and sale agreement (PSA) for SRECs over a 10 year term. The second solicitation was held in December with 39 projects totaling 6.5 MW of capacity approved for PSA contracts for SRECs over terms from 10 to 15 years. PSEG's Solar Loan I program resulted in 11.6 MW of solar capacity installed in 2009. The first auction for the EDC's sale of SRECs was scheduled to occur in January 2010.

The Office of Clean Energy estimates the total cost of compliance with the RY09 RPS was approximately \$120 million. The solar RPS requirement is estimated to have cost approximately \$80 million: \$38.9 million in SACP's plus more than \$41 million in SRECs purchased for retirement. The Class I requirements are estimated to have cost approximately \$37 million and the Class II requirements cost approximately \$2 million. Electricity supplier/providers, who bear the obligation of RPS compliance, are presumed to pass through to their customers, the New Jersey electricity ratepayers, the majority of these costs.

The market for renewable energy in New Jersey during 2009 was strong despite a shaky national economy. Solar installations in New Jersey came online at an unprecedented rate through the Board's New Jersey Clean Energy Program rebate programs and the non-rebated Solar Registration Program (SRP). Growth in the number and aggregate capacity of renewable energy generation facilities eligible for NJ Class I RECs was also near record levels. The State's RPS comprises one portion of the regional compliance market for RECs, and is complemented by other state compliance markets and a variety of voluntary programs throughout the region. New Jersey's RPS program includes diverse participants including facility owners of all sizes, renewable energy generation facility developers, renewable energy system installers, energy brokers, aggregators and auction hosts. With the Board, renewable energy market participants, and other decision makers constantly gaining knowledge and experience from the maturation of the above-described programs, with the implementation of the New Jersey Energy Master Plan, and with the consistent development of New Jersey's renewable energy market, the future for renewable energy in New Jersey remains strong.

2. Background and History of New Jersey's Renewable Portfolio Standards

a. Renewable Energy and RPS Defined by NJ Statute

The Electric Discount and Energy Competition Act of 1999 (EDECA), which became Chapter 23 of Public Law 1999¹, directed the New Jersey Board of Public Utilities (BPU) to develop clean energy markets using a variety of tools. The law provides a basic framework for clean energy program funding through a societal benefits charge, net metering and interconnection standards, an interim renewable portfolio standard as well as classifications for different renewable energy sources. The legislature defined "Class I renewable energy" as "electric energy produced from solar technologies, photovoltaic technologies, wind energy, fuel cells, geothermal technologies, wave or tidal action, and methane gas from landfills or a biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner"²

The original percentage requirements contained in the interim Renewable Portfolio Standards required by law; (1) that two and one-half percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from Class I or Class II renewable energy sources; and (2) beginning on January 1, 2001, that one-half of one percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider be from Class I renewable energy sources. The board shall increase the required percentage for Class I renewable energy sources so that by January 1, 2006, one percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider shall be from Class I renewable energy sources and shall additionally increase the required percentage for Class I renewable energy sources by one-half of one percent each year until January 1, 2012, when four percent of the kilowatt hours sold in this State by each electric power supplier and each basic generation service provider shall be from Class I renewable energy sources.³

Appendix 1 contains in table format how the interim percentage requirements were implemented by the Board and how these requirements have changed through subsequent Board rulemaking. Section 5 of this report describes recent legislation, A3520/S2441, signed in January 2010 that directs the Board to make further changes to the RPS requirements.

b. Basic Elements of NJ's Renewable Portfolio Standard

The BPU has codified New Jersey's Renewable Portfolio Standard (RPS) rules at N.J.A.C. 14:8-2⁴. The RPS requires that electric generation suppliers and providers procure renewable energy in proportion to the retail electricity sold to customers in markets regulated by the Board of Public

¹ Statutes in New Jersey are available online via New Jersey Legislature's website at: <http://www.njleg.state.nj.us/lawsconstitution/chapter.asp>

² C.48:3-51

³ Ibid.

⁴ The New Jersey Administrative Code is available online via Lexis Nexis at www.lexisnexis.com/njoal

Utilities. The RPS rules further define for regulated entities the annual percentage requirements of each class of renewable energy and how these requirements can be met. Electric generation suppliers can meet their obligations by procuring Renewable Energy Certificates (RECs) or making Alternative Compliance Payments (ACPs) for each renewable energy classification in a designated proportion to their annual retail sales.

The RPS applies to retail electricity sold on an annual basis starting each year on June 1 and extending to May 31 in the following year. This annual period was referred to as a "Reporting Year" (N.J.A.C. 14:8-2.2). Recent legislation described later in this report changes the nomenclature for a compliance period by defining an "Energy Year" which shall be numbered by the year in which it ends⁵ (A3520/S441, Approved P.L. 2009, c 289, signed January 17, 2010). The rules allow supplier/providers four months from the end of a reporting year to "true up" their compliance efforts with their reconciled reports of retail electricity sales by finalizing their REC purchases and fulfilling any remaining obligation through the payment of ACPs. Reporting year 2009 started on June 1, 2008 and ended on May 31, 2009. Supplier/provider compliance reports documenting load served, RECs retired and ACPs paid were due by October 1, 2009.

c. Evolution of the RPS Rules at N.J.A.C. 14.8-2

New Jersey's RPS rules have evolved since the Board first proposed interim regulations in 2001 to implement the legislature's directive. Appendix 1 contains summary tables of the RPS percentages as they have changed over time. Executive Order #45, issued on January 27, 2003, established a Renewable Energy Task Force to examine the RPS to "better enable the BPU to implement RPS that reflect the changing goals and needs of the state". The Renewable Energy Task Force issued its report on April 24, 2003 and the Board subsequently proposed RPS amendments in October 2003 to codify several of the recommendations made including;

- Increase the percentage of a supplier's energy portfolio that must be derived from renewable energy from 2004 onward. The existing rules at N.J.A.C. 14:4-8.3 set requirements starting at 3.25% in 2004 and increasing to 4.5% in 2008 and 6.5% in 2012. The amendments increased the required percentages to 6.5% by 2008.
- Establish a solar REC to provide a market mechanism to capture the value of solar electric generation for purposes of the Board's solar energy initiative.
- Introduce the Alternative Compliance Payment (ACP) mechanism to provide suppliers with an additional approach to comply with the rule's requirements.
- Develop a process by which the Board with an advisory committee recommendation, sets the amount for an ACP for one MWh of Class I or II renewable energy with a separate solar ACP (SACP) to reflect the distinct economics of that industry. In order to motivate suppliers to purchase RECs, the rules reflected an intent that the ACP or SACP be set at a level above the proxy price determined by reference to a representative generation facility.

⁵ The RPS convention for a compliance period, previously referred to as a Reporting Year and with recent legislation effective July 17, 2010 referred to as an Energy Year should not be confused with the PJM and BGS convention for planning referred to as an Energy Year which also runs from June 1 to May 31 of the following year designated by the year in which it begins

The Board, by Order dated December 17, 2003, referenced the April 2003 RPS rule proposal provisions in adopting the recommendations contained in a report from the Alternative Compliance Payment Advisory Committee for an ACP set at \$50.00/MWh and a SACP set at \$300.00/MWh. The RPS rule revisions proposed in 2003 became effective on April 19, 2004. By Secretaries letter dated July 1, 2004, the Board further clarified that the RPS reporting year definition classifies the period by the year in which it ends, hence Reporting Year 2005 ended on May 31, 2005.

On March 7, 2005, rule revisions proposed in 2004 became effective which;

- Provided a limited waiver for holders of 34-month supply obligations, committed to through the 2003 basic generation service (BGS) auction, applying the RPS requirements in effect at the time of the 2003 auction to those supply obligations;
- Adjusted the RPS percentage requirements for the years following the expiration of the 34-month supply obligations, to compensate for the renewable energy that would have been supplied absent the limited waiver;
- Restricted issuance of solar RECs to energy generated at a facility directly connected to a distribution system supplying New Jersey; and
- Authorized the Board to adopt a different tracking system than the PJM Generation Attribute Tracking System (GATS) if necessary.

On October 17, 2005, the Board proposed revisions to the RPS rules which;

- Separated the renewable energy subchapters out into a new chapter solely for renewable energy rules;
- Removed repetitive common definitions from individual subchapters and consolidated them in a general provisions subchapter at the beginning of each chapter (4 and 8);
- Provided RPS percentages through 2020; and
- Disallowed use of direct supply of energy for compliance rather required RECs in all cases.

The proposed revisions extending the RPS percentage requirements to RY21 were adopted on May 15, 2006. These revisions included extending the solar carve out to RY21 with a percentage requirement for solar of 2.12% of retail electric sales. The Board considered recommendations from the ACP committee and public stakeholder comments in establishing ACP and SACP levels in December 2006 which resulted in an Order dated January 19, 2007 which;

- Found that existing economic conditions and modeling supported maintaining the ACP and SACP at current amounts in RY08, \$50 per megawatt hour and \$300 per megawatt hour, respectively;
- Initiated a Solar REC-Only Pilot to provide staff and the Board with data and to reduce any expected shortfall of solar generation capacity in RY09 and beyond;
- Established a stakeholder proceeding to present policy recommendations for the Board's consideration before the end of July 2007;
- Directed staff to extend the analytical and modeling services with its Market Assessment contractors to provide independent economic analysis with a detailed

scenario-based analysis of potential SACP schedules, their associated impacts on ratepayer costs, and their ability to stimulate the level of development needed to meet RPS requirements.

At the August 1, 2007 Agenda Meeting, the Board extended the time for a final policy recommendation as established in the stakeholder proceeding schedule established in January. The Board subsequently issued a decision and order on September 12, 2007 which reviewed the results from the “solar transition” stakeholder proceeding, found the recommendations balanced the various interests involved and directed staff to such carry out recommendations or propose rules such as;

- Expand the SREC trading life from one to two years
- Establish a Qualification Life of fifteen years for solar projects
- Address the need for rebates for smaller systems in Reporting Years 2009 to 2012 in the upcoming Comprehensive Resource Analysis Proceedings
- Commence a public stakeholder process on Community Solar
- Extend the SREC-only Pilot until the recommended solar transition changes were permanent
- Cap the cost of SRECs if solar incentive costs exceed 2% of estimated retail electric costs, and
- Initiate a proceeding to determine if additional securitization of SREC revenues are necessary.
- A rolling 8 year SACP schedule effectively immediately

Board Approved 8 Year SACP Schedule

| | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|
| R Y | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| SACP | \$711 | \$693 | \$675 | \$658 | \$641 | \$625 | \$609 | \$594 |

On June 16, 2008, the Board issued a rule proposal based on the results of the stakeholder proceeding and analysis initiated in January 2007 and further directed in an Order signed on December 6, 2007 (I/M/O the RPS – ACP and SACP Decision and Order Regarding Solar Electric Generation, Docket No. EO06100744). The Board recognized the need to reduce reliance on rebates and to rely more heavily on other incentives. Between May 2001 and August 2007, forty (40) MW of solar generating capacity was installed in New Jersey, assisted by more than \$170 million in rebates, or about \$4,250 per kilowatt. If the rebate levels were to remain unchanged, achieving the 2.12% solar RPS requirement by 2021 would require an estimated \$10.9 billion in rebates, adding about 7.5% to electricity rates.

The Board found strong interest and high participation in the solar portion of the rebate program had led to the program being over-subscribed, requiring queues for rebate funding since early 2006. Therefore, the Board sought a more efficient and sustainable means of providing the incentives needed to achieve the solar RPS, and set a course toward transition to a more efficient and sustainable model. The Board’s priorities in the transition included minimizing the cost that

ratepayers bear; fairness and equity to all ratepayer classes; job growth; improved reliability and security of New Jersey's electricity infrastructure; the ability to achieve sustained orderly development of the solar portion of that infrastructure; reducing transaction costs; and supporting other policy goals, especially with respect to environmental protection and public health. The Board also ordered that rebates be phased out entirely by May 31, 2012, and limited to small projects until then.

3. Highlights and Key Changes to New Jersey's RPS in 2009

a NJ RPS Policy Changes in 2009

In a Secretary's Letter dated February 11, 2009, the Board provided notice clarifying that, after considering comments in the rulemaking process related to the "solar transition", the 2 MW entity cap established in the SREC-only Pilot program had been eliminated. The Board further announced that the SREC-only Pilot program had been renamed to the SREC Registration Program to better reflect the current features of the program.

The Board adopted the amendments, referred to above as the "solar transition" rules, at N.J.A.C. 14:4-1.2, 14:8-2.1, 2.2, 2.3, 2.8, 2.9, 2.10, and 2.11 effective March 16, 2009. To provide greater surety to the revenue stream from SRECs toward enabling sufficient investment to reach the RPS goals, the Board codified the SACP schedule based on a targeted internal rate of return ("IRR") of 12 percent. A 12 percent IRR was estimated to provide approximately a 6-year payback period for the investment in the solar electric generation system.

Some of the other key provisions of the solar transition rule amendments:

- extended the trading life of an SREC for an additional year to provide more flexibility by allowing them to be carried forward for one additional reporting year;
- established a 15-year SREC qualification life for eligible solar facilities;
- specified a cost impact trigger level which freezes the RPS requirement if the total cost of solar incentives exceeds a specified trigger level; and
- extended the true-up period an extra month to four months for regulated entities to submit the necessary documentation of retired RECs and ACP payments required for RPS compliance.

The Board adopted changes to the RPS rules at N.J.A.C. 14:8-2.7 and 2.9 on July 29, 2009 that had been proposed in December 2008. N.J.A.C. 14:8-2.7 had specified that energy is considered to be "delivered into the PJM region" if it "complies with the energy delivery rules established by PJM Interconnection." The Board determined that this provision in the RPS needed to be clarified, to emphasize the requirement for the measurement of a renewable generator's output to be verified in accordance with N.J.A.C. 14:8-2.9(b). The amendments clarify N.J.A.C. 14:8-2.7(b) and harmonize it with the verification requirement in N.J.A.C. 14:8-2.9. The amendments state that energy generated outside the PJM region will be considered to have been "delivered into the PJM region" only if it has been added to the PJM region through dynamic scheduling of the output to load inside the PJM region, in accordance with the PJM Operating Agreement. Requiring dynamic scheduling ensures that generators inside and outside the PJM region cannot earn

renewable energy certificates usable for compliance with New Jersey's RPS ("New Jersey RECs") without complying with the same requirements to submit actual production data to the PJM settlement system. The amendments also make the verification requirement in N.J.A.C. 14:8-2.9 more specific, so that it conforms to direction that the Board has previously set and reaffirmed.

b. SREC - based Financial Assistance from NJ Electric Distribution Companies

As directed by the Board during the September 2007 Agenda meeting and memorialized in the December 6, 2007 Order described above, staff led a stakeholder proceeding to explore the necessity of providing additional security to the SREC revenue stream given the increased emphasis on the RPS in the "solar transition". The "securitization" proceeding was commenced in November 2007 with a staff straw proposal developed prior to a public hearing being held on June 13, 2008. The issues and recommendations were reviewed by the Board during the July 30 2008 agenda meeting and memorialized in an Order signed August 7, 2008 (I/M/O the RPS Amendments to the Minimum Filing Requirements for EE, RE, and Conservation Programs and for Electric Distribution Company Submittals of Filings in Connection with Solar Financing, Docket No. EO0610074).

This Order summarized the position of interested parties with regard to contract terms, the size of the programs recommended, the market segments to be served, a Developer Cap on participation, treatment of legacy projects, and the program timeframe. The Board further directed the EDCs to undertake solar financing programs pursuant to N.J.S.A. 48:3-98.1 (a)(3), the Global Warming Response Act. Jersey Central Power & Light (JCP&L), Atlantic City Electric (ACE), and Rockland Electric (RECO) were directed to commence discussions toward submitting an SREC based financing plan by September 30, 2008. RECO was directed to submit by January 31, 2009. Public Service Electric and Gas (PSEG) was authorized to submit a plan that modified their existing Solar Loan Program provided that the modifications were sufficient to enable the program to support the transition to a market-based approach to delivering incentives for solar generation and were to be submitted by March 31, 2009.

Consistent with the Board's directive, each of the Electric Distribution Companies submitted plans for SREC based financing programs by their appointed deadlines. The JCP&L and ACE plans were approved by the Board at the March 27, 2009 Agenda meeting, RECO's plan was approved on July 29, 2009 and the PSEG Solar Loan II program was approved on November 10, 2009. Under the JCP&L, ACE and RECO programs, a solicitation manager is engaged to issue requests for bids for the purchase of solar renewable energy certificates (SRECs) under long-term contracts. Project developers bidding competitive proposals are offered contracts by the EDCs to purchase the SRECs. These contracts are intended to provide a secure revenue stream to facilitate private sector financing through loans or equity for the development and installation of the solar projects. The program is available for residential and commercial systems up to 500 kW in capacity with contract terms that can run from 10 to 15 years.

Pricing proposals are evaluated and ranked on the basis of the net present value (NPV) of the SRECs over the proposed term. A solicitation process is facilitated online using a three step approach including an expression of interest, the submission of a qualification package and a pricing proposal. Once a given solicitation period closes all bids are ranked, the results of the

solicitation are presented to the Board for approval and the most competitive are offered the opportunity to execute a contract with the applicable Electric Distribution Company. The solicitation process is described and facilitated at www.njedcsolar.com.

Each of the approved plans differ with respect to several components most notably, the program capacities offered and the time frame. The JCP&L and ACE programs propose to serve 42 MW and 19 MW, respectively according to the following schedule:

| Reporting Year | JCP&L | ACE | Total |
|-----------------------------|-------|-----|-------|
| 2009/10 (06/2009 – 05/2010) | 23 | 10 | 33 |
| 2010/11 (06/2010 – 05/2011) | 10 | 5 | 15 |
| 2011/12 (06/2011 – 05/2012) | 9 | 4 | 13 |
| Total | 42 | 19 | 61 |

For the RECO SREC financing plan, the program size in megawatts per year is as follows:

| Reporting Year | RECO's Plan (MW) |
|-----------------------------|------------------|
| 2009/10 (06/2009 – 05/2010) | 2.267 |
| 2010/11 (06/2010 – 05/2011) | 0.803 |
| 2011/12 (06/2011 – 05/2012) | 0.699 |
| Total | 3.769 |

PSEG began its first solar financing initiative, called Solar Loan I, with a filing submitted on April 19, 2007 for a 30 MW program. After extensive discovery and settlement meetings, on April 8, 2008 the Board approved the PSEG Solar Loan I program. Under the terms of the proposed pilot program, the program would have four segments, with hard caps in the first year, subject to conversion to “soft” caps in the program’s second year depending on market conditions and the status of projects accepted into each segment in the initial year: 9 MW (30%) for municipal/ not-for-profit segment, 9 MW (30%) for residential and multi-family/affordable housing segments combined, and 12 MW (40%) for the commercial and industrial (C&I) segment.

PSEG proposed to loan ratepayers or solar developers a portion of their expected project costs. For purposes of repayment of the solar loan, SRECs have an established floor value of \$475 for the duration of the loan repayment period. Loans are repaid at the higher of the market value for SRECs or the established floor price at the time the SREC is transferred to PSEG over the appropriate 10 or 15 year loan term. On October 10, 2008, a stipulation was reached by interested parties that established an auction process for disposition of SRECs accrued under the PSEG solar

loan program. PSEG's Solar Loan I program reported 52 solar projects totaling 11.6 MW were installed in 2009 and an additional 120 solar projects with loan commitments are expected to contribute another 7.8 MW in 2010.

On February 10, 2009, in a petition filed pursuant to N.J.S.A. 48:3-98.1(a)(3), the Global Warming Response Act, that was otherwise unrelated to the EDC solar financing programs ordered by the Board, PSEG proposed a \$773 million proposal to provide 120 MW of solar PV capacity referred to as "Solar for All". After extensive discovery and settlement meetings, interested parties submitted a program proposal for a \$514.6 million program over six years which would provide 80 MW in two segments; a "Centralized Solar" and a "Neighborhood Solar" program. The Centralized Solar plan proposed 25 MW on PSEG owned land, 10 MW on third party owned sites, and 5 MW on Urban Enterprise Zone (UEZ) including publicly owned sites. All facilities in this segment of the program are required to exceed 500 kW. The Neighborhood Solar plan proposed 200,000 utility pole mounted solar PV systems rated at 200 watts each. The stipulated settlement for PSEG's "Solar for All" program was approved by the Board on August 3, 2009.

On March 31, 2009, PSEG filed its petition for the Solar Loan II program, a two year, 51 MW program proposed for projects less than 500 kW in three segments; residential, non-residential up to 150 kW and non-residential between 150 kW and 500 kW. After extensive discovery and settlement meetings, interested parties agreed to a program that was approved by the Board on November 11, 2009. Unused capacity from the Solar Loan I program was proposed to be utilized in the Solar Loan II program. The primary difference in the Solar Loan II program is an SREC floor price that varies by market segment and by program quarter as opposed to one fixed floor price for all program participants.

| PSEG SLII FLOOR PRICE SCHEDULE | | | | |
|---------------------------------------|------|------|------|------|
| (\$/SREC) | | | | |
| | Q1&2 | Q3&4 | Q5&6 | Q7&8 |
| Residential | | | | |
| | 450 | 435 | 420 | 400 |
| Non- Residential | | | | |
| ≤150 kW | 410 | 395 | 380 | 360 |
| >150 kW to 500 kW | 380 | 365 | 350 | 330 |

c Administrative Changes in NJ RPS Implementation

The methods for demonstrating compliance with New Jersey's Renewable Portfolio Standard have evolved since the initial requirements including a renewable energy trading provision were legislated in 1999. In the 1990's, states throughout the territory served by PJM, operator of the regional transmission grid and wholesale electricity market, considered changes to the structure of their electricity markets. Concurrently, stakeholders were working to develop a renewable energy certificate tracking and trading system to facilitate expected RPS and environmental disclosure

provisions. Toward this end, PJM Technologies, Inc. established the wholly owned subsidiary PJM Environmental Information Services (PJM-EIS) which developed the Generation Attribute Tracking System (GATS).

Prior to full functionality of the GATS system, the Board required demonstration of renewable energy purchase contracts by regulated entities to satisfy RPS compliance. The Board first enabled SREC issuance for electricity generation from eligible solar facilities starting in March 2004. From an RFP issued by the Office of Clean Energy in December 2003, Clean Power Markets developed the New Jersey Behind-the-Meter REC system which became operational in August 2004. On July 6, 2005, the Board authorized use of PJM-EIS GATS for the issuance of Class I RECs (I/M/O the Authorization to Use Class I and Class II RECs Issued by PJM EIS for Compliance with NJ's RPS, non-docketed Order signed August 31, 2005). GATS created the first NJ Class I and Class II RECs from energy settled in the PJM-wholesale electricity market for NJ RPS compliance starting in RY06. Appendix 4 summarizes the NJ Class I and II REC generation and retirement activity in GATS since its inception.

In lieu of PJM wholesale market settlement data to substantiate REC creation, Class I "behind-the-meter" (BTM) generators located outside of New Jersey but within the PJM footprint have been able to submit meter readings and affidavits (I/M/O the Renewable Portfolio Standards – Request for Board Action Regarding Renewable Energy Certificates, Docket No. EO07110886, January 2008 Order). The Board conditioned the waiver of the PJM settlement requirement for non-Jersey Class I renewable generators on the use of the affidavits with the expectation that an alternative would be developed. While originally available only through May 31, 2008, the waiver process was extended because an alternative to settling in the PJM wholesale market had not been developed. On December 8, 2009, the Board adopted amendments to N.J.A.C. 14:8-2.9(d) that will allow the use of an alternative, e-metering solution to REC verification for non-Jersey BTM facilities. To allow time for a transition to that alternative, the Board by Order dated May 15, 2009 extended the waiver process to continue for Reporting Years 2009 and 2010 with the waiver process terminating on May 31, 2010.

NJ BTM REC System Transition to GATS

On October 28, 2008, the Board gave official notice of its consideration toward approving the use of RECs issued by PJM-EIS GATS for Class I, behind-the-meter facilities based in New Jersey and issued a request for comments. The Board considered public input on the issue on December 12, 2008 and approved the use of PJM-EIS GATS for the issuance, tracking and trading of Class I RECs from BTM located in New Jersey. The Board directed this function to occur on or before December 31, 2008 and further directed staff to work with GATS toward making price data for each transaction related to RPS compliance available for reporting. Board staff established a transition team consisting of representatives from PJM-EIS, Clean Power Markets, and the NJCEP Market Manager team. The transition team worked closely with new and existing SREC and REC account holders offering existing account holders three voluntary transition opportunities over time and one final mandatory transition option to fulfill the Board's mandate.

The transition of all accounts from the NJBTM REC tracking system to GATS was completed on October 1, 2009 with the following results:

- 2,960 NJ-based SREC and Class I BTM REC accounts transferred to GATS
- 3,516 generating units comprising 85.541 MW of distributed renewable energy generating capacity transferred to GATS, and
- 7,186 SRECs and RECs created for RY09 transferred to GATS

4. Reporting Year 2009 (RY09) Compliance Results

The RPS rules require electric suppliers and providers to submit compliance reports documenting how the percentage of retail sales requirements were met for solar, Class I and Class II renewable energy. RPS rule revisions at N.J.A.C. 14:8-2.11 (a) effective March 16, 2009 expanded the true up period by one month, as a result, reports for RPS Reporting Year 2009 were due by October 1, 2009. Prior to this rule change, regulated entities had been given three months from the end of reporting year to submit compliance reports. Electric Suppliers and Providers requested and were granted by the Board through rule adoption an additional month to facilitate accurate accounting of retail sales figures toward procuring the proper amount of SREC or RECs and making adequate compliance payments if required.

Twenty (20) distinct third party electricity suppliers (TPSs) and eighteen (18) distinct basic generation service providers submitted compliance reports indicating some level of retail electricity sales in RY09 (Appendix 2). The sum total of retail electricity sold in the four regulated electric distribution territories in New Jersey from June 1, 2008 through May 31, 2009 was 81,416,156 megawatt hours. Appendix 3 summarizes the historic RPS compliance results dating back to RY05, the first year in which RECs were allowed for use by the Board. The summary table contains REC retirement reported from both the NJ BTM REC tracking system and PJM-EIS GATS.

a. Solar; requirements and results

The RPS percentage requirement for solar electricity in RY09 was 0.16% of retail sales. Table 1 shows retail sales of 81,416,156 megawatt hours reported in RY09 resulted in an obligation to provide 130,266 SRECs or their equivalent in Solar Alternative Compliance Payments (SACPs). Regulated entities retired 75,532 SRECs and paid for 54,738 SACPs at the RY09 level of \$711 per MWh which summed to \$38,918,718 delivered to the NJBPU. On November 10, 2009, the Board approved the transfer of these funds into the New Jersey Clean Energy Program consistent the RPS rules at N.J.A.C. 14:8-2.10 (e).

Table 1. Solar RPS Compliance by TPS's and BGS Suppliers Summarized:

Reporting Year 2009 (06/01/08 - 05/31/09)

| # | LSE Type | Load | Obligation | SREC Retired | SACP Paid(#) | SACP Paid (\$) |
|----|--------------------|------------|------------|--------------|--------------|----------------|
| 20 | TPS's | 17,835,159 | 28,537 | 19,666 | 8,874 | \$6,310,836 |
| 13 | JCPL's BGS Winners | 18,772,765 | 30,036 | 20,393 | 9,643 | \$6,855,462 |
| 7 | ACE's BGS Winners | 8,358,786 | 13,374 | 11,785 | 1,589 | \$1,129,779 |
| 11 | PSEG's BGS Winners | 34,926,395 | 55,882 | 21,764 | 34,118 | \$24,257,187 |
| 5 | RECO's BGS Winners | 1,523,051 | 2,437 | 1,924 | 514 | \$365,454 |
| 56 | Total | 81,416,156 | 130,266 | 75,532 | 54,738 | \$38,918,718 |

To qualify for issuance of an SREC in the NJ RPS, electric generation shall be produced by a generating facility that is interconnected with an electric distribution system, as defined at N.J.A.C. 14:8-2.2 that supplies New Jersey. As of June 1, 2008, the beginning of the RY09 period, approximately 3,100 solar electric systems totaling 56 MWdc capacity met the eligibility requirements for SRECs. An additional 31 MWdc of solar electric capacity was completed throughout the reporting year and contributed SRECs to the RPS compliance market (Table 2).

Table 2. New Jersey Solar Installations by Month in RY09

| Month | Projects <= 10 kW | | | Projects > 10 kW | | | All Projects | | |
|--------------|-------------------|----------------|----------------------|------------------|-----------------|----------------------|--------------|-----------------|----------------------|
| | # Projects | Total kW | Total Rebate \$ | # Projects | Total kW | Total Rebate \$ | # Projects | Total kW | Total Rebate \$ |
| Jun-08 | 63 | 471.8 | \$ 1,908,041 | 12 | 247.4 | \$ 726,898 | 75 | 719.2 | \$ 2,634,939 |
| Jul-08 | 54 | 332.5 | \$ 1,305,415 | 18 | 704.2 | \$ 2,247,204 | 72 | 1,036.7 | \$ 3,552,619 |
| Aug-08 | 55 | 389.9 | \$ 1,526,341 | 11 | 634.2 | \$ 626,144 | 66 | 1,024.1 | \$ 2,152,485 |
| Sep-08 | 47 | 290.2 | \$ 1,154,294 | 19 | 1,063.5 | \$ 1,861,237 | 66 | 1,353.7 | \$ 3,015,531 |
| Oct-08 | 56 | 412.7 | \$ 1,638,477 | 23 | 2,005.6 | \$ 3,453,991 | 79 | 2,418.2 | \$ 5,092,468 |
| Nov-08 | 13 | 86.0 | \$ 291,943 | 13 | 606.2 | \$ 1,793,685 | 26 | 692.2 | \$ 2,085,628 |
| Dec-08 | 30 | 193.4 | \$ 720,092 | 26 | 6,717.3 | \$ 1,765,346 | 56 | 6,910.7 | \$ 2,485,437 |
| Jan-09 | 44 | 314.6 | \$ 1,229,043 | 44 | 2,353.3 | \$ 3,100,972 | 88 | 2,667.8 | \$ 4,330,016 |
| Feb-09 | 47 | 323.4 | \$ 1,123,342 | 9 | 3,830.1 | \$ 256,255 | 56 | 4,153.5 | \$ 1,379,597 |
| Mar-09 | 45 | 347.8 | \$ 1,249,252 | 19 | 3,513.7 | \$ 3,581,551 | 64 | 3,861.5 | \$ 4,830,804 |
| Apr-09 | 42 | 263.5 | \$ 952,790 | 24 | 2,250.8 | \$ 4,028,906 | 66 | 2,514.3 | \$ 4,981,696 |
| May-09 | 60 | 422.4 | \$ 1,386,003 | 34 | 3,532.7 | \$ 6,100,288 | 94 | 3,955.1 | \$ 7,486,291 |
| Total | 556 | 3,848.1 | \$ 14,485,033 | 252 | 27,458.9 | \$ 29,542,476 | 808 | 31,307.0 | \$ 44,027,509 |

Note: Solar installation data includes all projects requesting inspection in the NJCEP REIP rebate and SREC registration programs. Final reports for completed installations by month will vary from the preliminary reports as additional program requirements beyond inspection are fulfilled

Table 3. New Jersey SREC Creation, Trade and Price Data, RY09

| Month | Year | Active kW DC | SREC Quantity | | Monthly | | Cumulative | |
|--------------|------|--------------|-----------------|-----------------|---------------|--------------|-------------------|-----------------------------|
| | | | Issued in Month | Traded in Month | High (\$/MWh) | Low (\$/MWh) | # of SRECs Traded | Weighted Avg Price (\$/MWh) |
| Sept | 2009 | 82,015 | 0 | 9,761 | \$ 700 | \$ 170 | 115,188 | \$544.85 |
| Aug | 2009 | 89,880 | 838 | 14,761 | \$ 700 | \$ 250 | 105,427 | \$539.49 |
| Jul | 2009 | 84,578 | 435 | 14,041 | \$ 690 | \$ 100 | 90,666 | \$527.12 |
| Jun | 2009 | 83,895 | 16,911 | 25,090 | \$ 695 | \$ 110 | 76,625 | \$513.89 |
| May | 2009 | 78,043 | 9,840 | 8,911 | \$ 690 | \$ 170 | 51,535 | \$500.18 |
| Apr | 2009 | 89,798 | 7,857 | 6,732 | \$ 695 | \$ 200 | 44,624 | \$490.55 |
| Mar | 2009 | 65,642 | 4,838 | 3,900 | \$ 690 | \$ 170 | 37,892 | \$468.85 |
| Feb | 2009 | 65,283 | 3,668 | 4,177 | \$ 681 | \$ 100 | 33,892 | \$462.37 |
| Jan | 2009 | 63,933 | 3,710 | 4,654 | \$ 676 | \$ 185 | 29,815 | \$443.24 |
| Dec | 2008 | 59,144 | 5,471 | 9,497 | \$ 690 | \$ 110 | 25,161 | \$417.13 |
| Nov | 2008 | 58,831 | 4,785 | 5,259 | \$ 650 | \$ 170 | 15,664 | \$419.50 |
| Oct | 2008 | 58,557 | 4,880 | 4,873 | \$ 600 | \$ 170 | 10,405 | \$391.52 |
| Sept | 2008 | 58,158 | 4,897 | 2,410 | \$ 552 | \$ 170 | 5,532 | \$391.62 |
| Aug | 2008 | 58,644 | 5,888 | 2,285 | \$ 580 | \$ 170 | 3,122 | \$345.52 |
| Jul | 2008 | 55,657 | 4,016 | 837 | \$ 525 | \$ 175 | 837 | \$308.08 |
| Total | | | 77,810 | 115,188 | | | | |

Note 1: The true-up period for trading of Reporting Year 2009 RECs/SRECs was extended to 9/30/09 by rulemaking effective March 2009. Final Reports and any ACPs were due by 10/1/09.

Note 2: Data includes RECs created and trades reported from both the NJ BTM REC System and the PJM-EIS GATS. The Active kW DC data is based upon generators that had registered in the New Jersey SREC system as of the end of the month. Additional projects that were installed but had not yet registered were not included in the values shown above.

The Office of Clean Energy estimates the total cost of compliance with the solar portion of the RPS requirements at \$80 million; \$38.9 million from SACP payments plus more than \$41 million from SRECs purchased for retirement estimated by multiplying 75,532 SRECs by the \$544.85 cumulative weighted average price of SRECs traded.

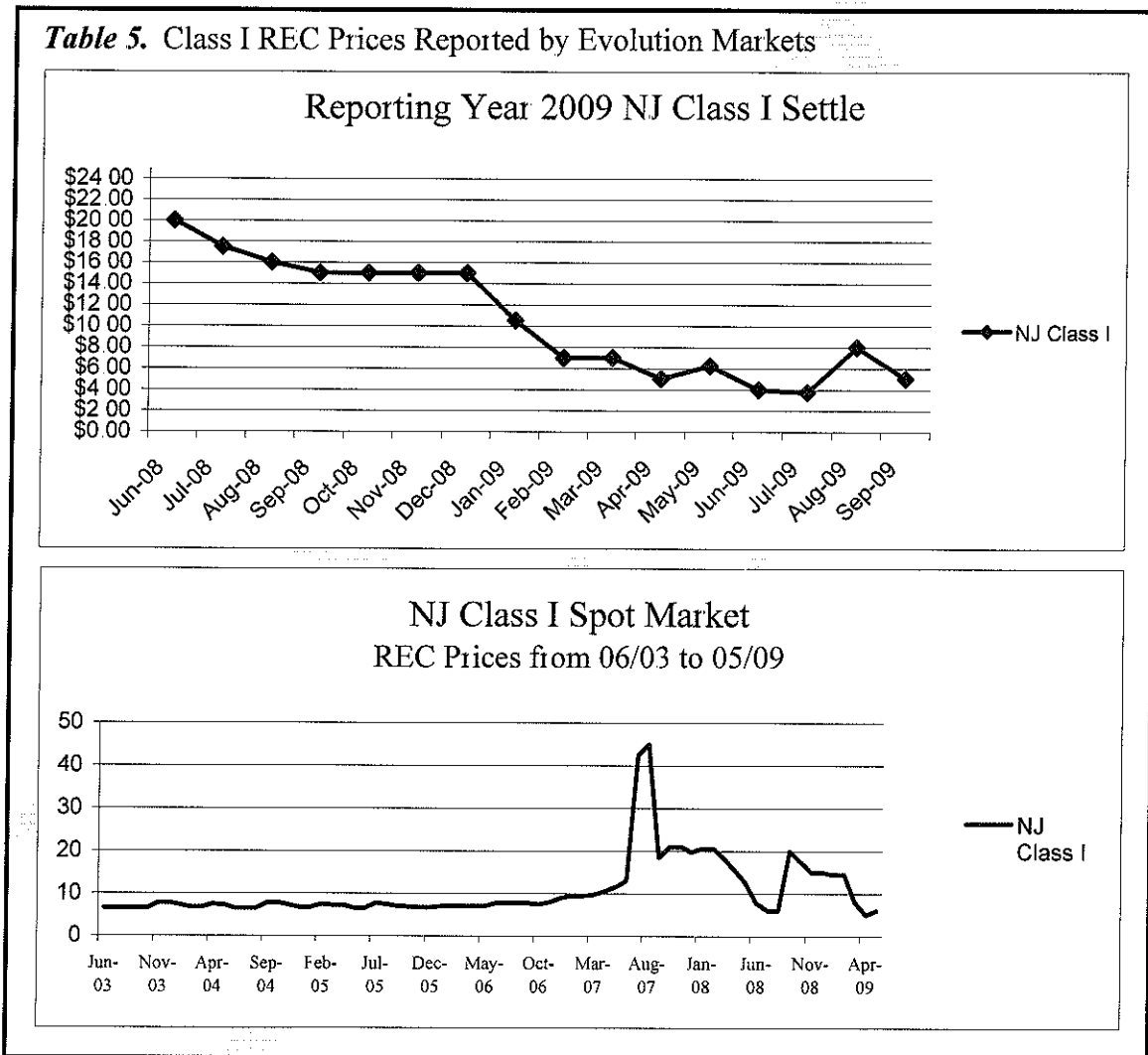
b. Class I; requirements and results

The RPS percentage requirement for Class I electricity in RY09 was 3.84% of retail sales. Retail sales of 81,416,156 megawatt hours in RY09 resulted in an obligation to provide 3,126,380 RECs or their equivalent in Alternative Compliance Payments (ACPs). Regulated entities retired

3,127,491 RECs and paid for no ACPs (Table 4). RY09 was the first year since RY05 that no ACPs were paid by regulated entities.

| Table 4. Class I RPS Compliance by TPS's and BGS Suppliers Summarized Reporting Year 2009 (06/01/08 - 05/31/09) | | | | | |
|---|-----------------------|-------------|-------------------|--------------------|---------------------|
| # | LSE Type | Load | Obligation | REC Retired | ACP Required |
| 20 | TPS's | 17,835,159 | 684,870 | 685,974 | 0 |
| 13 | JCPL's BGS Winners | 18,772,765 | 720,874 | 720,875 | 0 |
| 7 | ACE's BGS Winners | 8,358,786 | 320,977 | 320,982 | 0 |
| 11 | PSEG's BGS Winners | 34,926,395 | 1,341,174 | 1,341,175 | 0 |
| 5 | RECO's BGS Winners | 1,523,051 | 58,485 | 58,485 | 0 |
| 56 | Total | 81,416,156 | 3,126,380 | 3,127,491 | 0 |

New Jersey Class I REC pricing data was not collected in either the NJ BTM REC system or the PJM-EIS GATS system. Evolution Markets, a REC brokerage firm, reported monthly average NJ Class I REC values ranging from \$3.75 to \$20 per REC (Table 5). Note that the price data supplied by Evolution Markets was not accompanied by data showing the quantity of trades from which the averages were calculated.



Since PJM GATS does not collect price data for NJ Class I RECs, accurately estimating the total cost of compliance with the Class I portion of the RPS requirements is challenging. The Office of Clean Energy estimates the Class I requirements cost NJ ratepayers at approximately \$37 million calculated by multiplying 3,127,491 Class I RECs retired by an estimated average Class I REC price of \$12 per MWh and \$0 from ACP payments.

c Class II, requirements and results

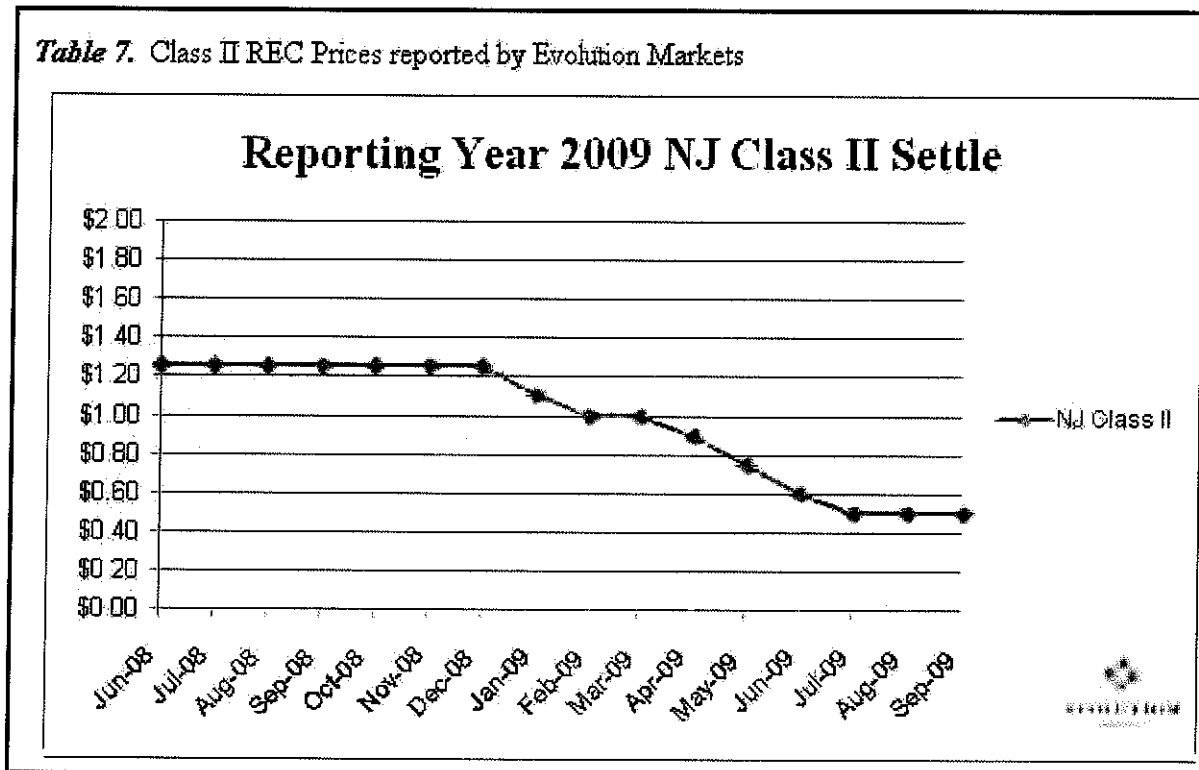
The RPS percentage requirement for Class II electricity in RY09 was 2.5% of retail sales. Retail sales of 81,416,156 megawatt hours in RY09 resulted in an obligation to provide 2,035,404 RECs or their equivalent in Alternative Compliance Payments (ACPs). Regulated entities retired 2,039,035 RECs and paid for no ACPs (Table 6).

Table 6. Class II RPS Compliance by IPS's and BGS Suppliers Summarized Reporting Year 2009 (06/01/08 - 05/31/09)

| # | LSE Type | Load | Obligation | REC Retired | ACP Required |
|----|--------------------|------------|------------|-------------|--------------|
| 20 | IPS's | 17,835,159 | 445,879 | 449,508 | 0 |
| 13 | JCPL's BGS Winners | 18,772,765 | 469,319 | 469,319 | 0 |
| 7 | ACE's BGS Winners | 8,358,786 | 208,970 | 208,970 | 0 |
| 11 | PSEG's BGS Winners | 34,926,395 | 873,160 | 873,161 | 0 |
| 5 | RECO's BGS Winners | 1,523,051 | 38,076 | 38,077 | 0 |
| 56 | Total | 81,416,156 | 2,035,404 | 2,039,035 | 0 |

New Jersey Class II REC pricing data was not collected in the PJM-EIS GATS system. Evolution Markets, a REC brokerage firm, reported monthly average NJ Class II REC values ranging from \$0.50 to \$1.25 per REC (Table 7).

Table 7. Class II REC Prices reported by Evolution Markets



PJM GATS does not collect price data for NJ Class II RECs making accurate estimation of the total cost of compliance with the Class II requirements difficult. The Office of Clean Energy estimates the Class II requirements cost NJ ratepayers at approximately \$2 million calculated by multiplying 2,039,035 Class II RECs retired by an estimated average Class II REC price of \$1 per MWh and \$0 from ACP payments.

5. Recent Developments, Issues & Opportunities for NJ's RPS

a. Implementing the NJ Energy Master Plan Recommendations

The New Jersey Energy Master Plan, released in October 2008, called for sweeping changes to New Jersey's Renewable Portfolio Standards (RPS) (N.J.A.C. 14:8-2). The EMP calls for the State to exceed the current RPS percentage requirements by meeting 30% of the State's electricity needs from renewable sources by 2020 and extending the RPS to 2025. In addition, a set of resource specific targets were also proposed to help meet these more aggressive goals including:

- Set a fixed target for solar photovoltaics at 2,120 GWhs by 2020;
- Develop New Jersey's offshore wind energy resources to achieve 1,000 MW of installed capacity of Offshore Wind by 2012 and 3,000 MW by 2020;
- Develop New Jersey's onshore wind energy resources to achieve up to 200 MW of onshore wind by 2020; and
- Develop 900 MW of biofuels and biomass as part of the State's 2020 RPS.

Together, it is estimated that these renewable energy goals will provide more than 20,000 GWh of clean and renewable electricity generation for the State's consumers by 2020. Based on projected reductions in energy consumption and the EMP's cogeneration goals, the total demand for electricity supply in the State may be as low as 68,300 GWh in 2020. This would result in renewable energy generation supplying approximately 30% of the State's overall electricity demand.

During 2009, a number of significant rule changes and draft stakeholder proposals were issued for discussion in support of the EMP goals. It should be noted that the Board has not proceeded with these proposals and will continue to engage stakeholders before developing any further proposed changes.

RPS Amendments for Offshore Wind Carve-out (N.J.A.C. 14:8) The Board released a draft rule titled *DRAFT Offshore Wind Financing Stakeholder Proposal* on July 1, 2009 for stakeholder review and comment. This rule proposal reflects Staff's recommendations for amendments to New Jersey's Renewable Portfolio Standards (N.J.A.C. 14:8 -1.2 to 2.14) to establish an offshore wind production target and a schedule as well as a financing structure based on a fixed price Offshore Wind Renewable Energy Certificate (OREC). The Board has deferred further work on this rule pending input from the new Governor on the offshore wind financing program.

RPS Amendment for Conversion from Percentage to 2,120 GWh Solar Requirement (N.J.A.C. 14:8-2) A draft proposal for stakeholder comment was circulated July 9, 2009 that would change the solar energy requirements of the RPS (N.J.A.C. 14:8-2) from an annual percentage of retail load to a fixed production requirement. A fixed solar production requirement would remain constant despite reduced energy demand. This change would provide greater surety to the solar industry about the amount of installed capacity needed to reach annual targets and the EMP target of 2,120 GWhs by 2020. The stakeholder draft also proposes a methodology to integrate a fixed GWh requirement into the BGS auction. BGS electric providers and third party suppliers have proposed alternate methodologies to minimize price risk which are under review.

Other draft stakeholder proposals to revise the RPS rule related to solar requirements (N.J.A.C. 14:8) Consistent with stakeholder recommendations to strengthen the veracity of RECs and the RPS, staff proposed the removal of the option for small solar PV systems to use engineering estimates to measure generation for SREC creation and require the installation and use of ANSI revenue grade meters. A solar registration requirement has also been proposed to provide notification of when a system is scheduled to come online and other key milestones thus improving the market's ability to track and make investment decisions based upon on solar projects in the pipeline. Staff will continue meeting with the EDCs, PJM-EIS GATS, solar

industry representatives and the interested public to proceed with a fully metered SREC verification system.

Net Metering and Interconnection Rule Amendments for Class 1 Renewable Energy Systems at (N.J.A.C. 14:8-4) The Board adopted amendments to the net metering and interconnection rules and concurrently proposed rule changes on December 1, 2009. The rule proposal removes a two megawatt limit on the size of a renewable energy generating unit that is eligible for net metering while maintaining the annual onsite consumption limit. A 2 MW limit on net metering was originally adopted when net metering was statutorily limited to residential and small commercial customers. Recent amendments to N.J.S.A. 48:3-87 expanded net metering to all customers, which make it possible that a very large electricity customer, such as a hospital or factory, could generate more than 2 MW of electricity without exceeding its average electricity usage. To accommodate this, the Board has proposed to lift the 2 MW limit, thus making the rules more consistent with the statutory amendments. It should be noted that the removal of the Board's 2 MW cap does not exempt customer-generators from the annual onsite consumption limitation as well as additional limits on net metering imposed by PJM Interconnection, or resulting from logistical and technical realities. The rule proposal was scheduled for publication in the New Jersey Register on January 4, 2010 with sixty day public period and a public hearing in February 2010. The recently enacted Solar Security Act eliminates the 2 MW cap.

RPS Amendment for 30% by 2020 and extension to 2025(N.J.A.C. 14:8) – DRAFT 30% RPS Analysis was circulated September 18, 2009 for discussion in stakeholder meetings. The DRAFT Analysis includes all the additional targets for solar, wind and biomass which will account for most of the additional renewables required to meet the 30% target. Further input will be sought on extending the RPS out to 2025 after public release of a detailed cost benefit analysis performed by Rutgers Center for Energy, Economic and Environmental Policy.

RPS Amendment to enable a Community Renewable Program (N.J.A.C. 14:8) - The Board directed staff to explore the feasibility of establishing a Community Renewable Program as a means to offer residents and businesses expanded access to renewable energy technologies and provide improved project financials that will benefit both consumers and ratepayers. A *Request for Comments on Proposed Criteria for a Community Renewables Pilot Program* was circulated. Board staff's recommendation was to support multiple platforms including aggregated net metering to foster community renewables across a range of Class I Renewable Energy technologies and for all classes of customers. Proceedings are on hold pending legislative action on SB S2535 which would mandate community net metering.

Recently enacted legislation that affects the RPS (N.J.A.C. 14:8) - The "Solar Energy Advancement and Fair Competition Act", A3520/S441, approved P.L.2009, c.289, signed January 17, 2010 contains three key provisions that would give more surety to the solar market. The first provision sets forth that once the Board adopts an RPS; it can raise but not lower the minimum requirements. Secondly, once the Board adopts an SACP it can raise but not lower previously approved levels. The final provision states that once the Board approves a utility long term contract for the purchase of SRECs the Board shall not modify such approval. The legislation would provide considerable regulatory certainty by allowing a future Board to increase but not decrease the RPS minimums or SACP levels, thereby preventing a future Board from

“backsliding” on the RPS requirements. This has been a significant issue with the solar industry and would be a major benefit to market development.

Potential Issues with Federal RPS Proposals. Federal consideration of comprehensive energy and climate change legislation will likely be postponed until Spring 2010. The Waxman-Markey climate bill, which passed the House of Representatives in June 2009, contains a Renewable Energy Standard (RES) calling for 20 percent by 2020. The details of a federal Renewable Energy Standard still need to be worked out to ensure compatibility with State RPS provisions especially in terms of the interaction of Federal and State standards. While most versions of the Federal RES respect state rights and include provisions for states to set an requirement higher than the federal standards, there are still questions about dual tracking systems, allocation of compliance payments and retirement of RECs to ensure against double counting.

b. Expected Results from RPS requirements for Reporting Year 2010

The RPS percentage requirements for RY10 are 0.2210% for solar, 4.685% for NJ Class I, and 2.5% for NJ Class II. If the annual retail sales in NJ’s four EDC territories for RY10 remain at 81.5 million MWh, then regulated entities will be required to procure approximately 180,000 SRECs, 3.8 million NJ Class I RECs and 2 million NJ Class II RECs.

As of December 31, 2009, the state had nearly 5,000 solar PV installations for 126 MWdc in total capacity (Table 8). New Jersey’s aggregated solar capacity produces, over twelve months, approximately 1,200 kWh per kWdc installed. The difficulty in forecasting the amount of solar electricity likely to be produced in a given reporting year, and the supply of SRECs available, lies with estimating the contribution from systems which come online throughout the reporting year. In order to estimate the cumulative amount of solar generation and SREC production during the reporting year, it is necessary to estimate the amount of full year generation from systems already installed as of the beginning of the reporting year plus the part year generation from systems anticipated to be installed during the remainder of the reporting year.

Table 8. NJ Solar Installations 2001 to 2009

| Install Year | Rebate Program; CORE and REIP | | | SREC-only Pilot and SREC Registration Program | | Total kW | Cumulative Installed Capacity (kW) |
|--------------|-------------------------------|------------|-------------------|---|----------------|-----------|------------------------------------|
| | # Projects | Rebated kW | Total Rebate (\$) | # Projects | Non-rebated kW | | |
| 2001 | 3 | 7.5 | \$37,145 | | | 7.5 | 7.5 |
| 2002 | 37 | 623.5 | \$2,424,694 | | | 623.5 | 631.0 |
| 2003 | 95 | 1,176.6 | \$5,323,411 | | | 1,176.6 | 1,807.6 |
| 2004 | 289 | 2,037.1 | \$10,581,975 | | | 2,037.1 | 3,844.7 |
| 2005 | 729 | 9,908.1 | \$46,235,897 | | | 9,908.1 | 13,752.8 |
| 2006 | 867 | 18,320.4 | \$78,086,786 | | | 18,320.4 | 32,073.2 |
| 2007 | 691 | 15,245.5 | \$58,122,386 | 2 | 12.8 | 15,258.3 | 47,331.5 |
| 2008 | 778 | 14,287.3 | \$44,962,462 | 57 | 8,433.2 | 22,720.5 | 70,052.0 |
| 2009 | 1245 | 21,942.4 | \$57,817,799 | 101 | 34,269.5 | 56,211.8 | 126,263.8 |
| Totals | 4734 | 83,548.3 | \$303,592,555 | 160 | 42,715.4 | 126,263.7 | - |

The following example is for illustration purposes only to document the challenges in forecasting SREC supply availability given the variables active in determining actual solar and SREC supply in New Jersey. Many assumptions have been used in this example that are subject to change such as the productivity of solar PV which is based upon solar insolation, system efficiencies, the number of systems and pace at which they become operational or cancel, etc. The Office of Clean Energy recommends that any solar marketer, supplier, or installer of solar system operate consult several sources of information in order to estimate the SREC market supply.

The total installed capacity on June 1, 2009; the beginning of Reporting Year 2010 was 87.2 MWdc. Given NJ's solar productivity at 1,200 kWh per kWdc, the 87.2 MWdc of capacity is expected to produce approximately 105,000 MWh and provide 105,000 SRECs in RY10. The Office of Clean Energy forecasts approximately 69 MW of capacity will be installed through the SREC registration and the NJCEP rebate programs in RY10 which will produce roughly 35,000 MWh and contribute an additional 35,000 SRECs in RY10. As a result, the total SREC production for RY10 is forecast to be nearly 140,000 SRECs. This estimate assumes approximately 105,000 SRECs produced over a full year from the installations operational as of June 1, 2009 plus 35,000 additional SRECs from the partial year production of projects installed during the reporting year. This would leave a shortfall of approximately 40,000 SRECs which will have to be met by regulated entities through the payment of SACPs.

Table 9, 10 and 11 below shows active solar rebate commitments in New Jersey's Clean Energy Program, as of December 31, 2009. This data is provided to demonstrate the project pipeline for NJ solar projects that was used to derive the forecast capacity additions during RY10.

| Table 9. CORE Program | | | |
|---|-------------|---------------------|----------------------|
| Committed Solar Projects by Status As of 12/31/09 | | | |
| Status | Project Qty | System Size (KW dc) | Rebate Amount |
| Approved | 443 | 28,573 | \$ 54,087,223 |
| QC Selected | 178 | 6,466 | \$ 18,803,349 |
| Ready for Rebate | 22 | 404 | \$ 1,479,657 |
| Processing Rebate | 30 | 584 | \$ 1,901,428 |
| Grand Total | 673 | 36,028 | \$ 76,271,656 |

The projects that have attained the status of QC Selected, Ready for Rebate and Processing Rebate are included in the Installed Project Report totals that are reported separately.

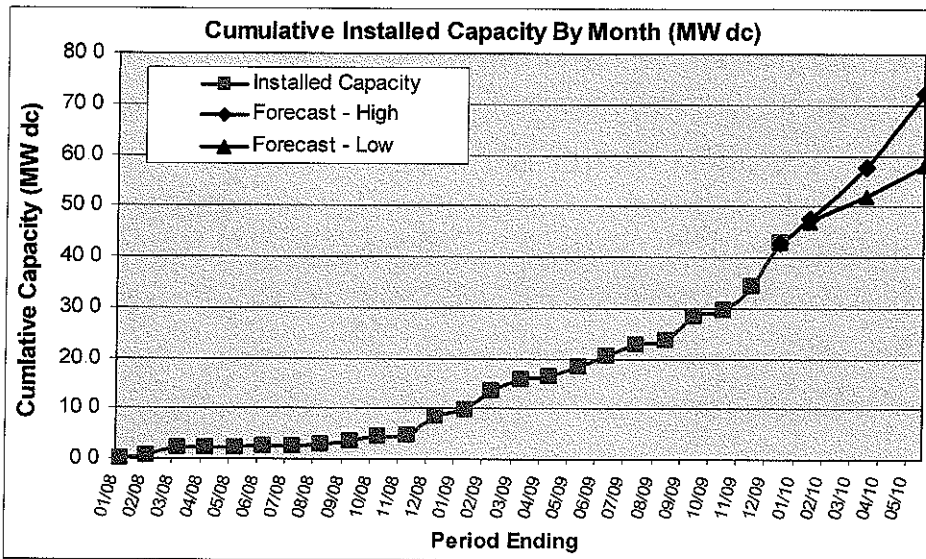
| Table 10. Renewable Energy Incentive Program | | | |
|---|--------------|---------------------|----------------------|
| Committed Solar Projects by Status As of 12/31/09 | | | |
| Status | Project Qty | System Size (KW dc) | Rebate Amount |
| Approved | 1,307 | 15,628 | \$ 21,512,296 |
| QC Selected | 298 | 2,823 | \$ 4,261,220 |
| Ready for Rebate | - | - | \$ - |
| Processing Rebate | 182 | 1,454 | \$ 2,360,783 |
| Grand Total | 1,787 | 19,904 | \$ 28,134,299 |

The projects that have attained the status of QC Selected, Ready for Rebate and Processing Rebate are included in the Installed Project Report totals that are reported separately.

Table 11 . SREC Registration Program

Solar Project Status as of 12/31/09

| Status | Project Qty | System Size (DC KW) |
|---|-------------|---------------------|
| Application Review | 1 | 140.5 |
| Approved | 222 | 54,168.2 |
| Active Projects | 223 | 54,308.7 |
| Active Projects includes approved applications and applications under review. | | |
| QC Selected | 33 | 12,587.8 |
| Complete | 127 | 30,127.7 |
| Installed Projects | 160 | 42,715.4 |
| Installed Projects includes completed projects and projects that have submitted final paperwork and are ready for inspection (QC Selected). | | |
| Total Projects | 383 | 97,024.1 |



The ability to forecast results for NJ Class I and Class II compliance markets in RY10 is even more challenging than analyzing the NJ SREC market. Unlike the strict SREC requirements of connection to the distribution system serving New Jersey for solar facility eligible, NJ Class I and Class II compliance RECs can be sourced from eligible facilities anywhere throughout the PJM Interconnect region provided the electricity is dynamically scheduled. Appendix 5 shows how the supply of NJ Class I RECs, both by fuel type and source state, have changed since RY06. In RY09, Illinois wind facilities continued to dominate the NJ Class I REC market having overtaken in RY08 the position of top supplier previously enjoyed by Pennsylvania landfill gas facilities. Future demand for Class I and Class II RECs is also difficult to forecast as a result of the array of RPS regulations in states throughout the PJM territory with each state and in some cases utilities within states on a different timetable.

Unlike the SREC market analysis, the NJ Class I REC supply is not as strongly influenced by the capacity additions from the NJCEP rebate or grant programs. Table 12 shows that the NJCEP incentive programs have contributed nearly 37 MW of NJ Class I eligible projects. By comparison, the capacity of NJ certified Class I facilities from the other PJM states was 5,887 MW as of January 1, 2009. According to the American Wind Energy Association (AWEA), states within the PJM region added over 1,000 MWs of new wind capacity in 2009 (AWEA Year End 2009 Market Report, www.awea.org/publications/reports/4Q09.pdf, accessed January 26, 2010).

Table 12. NJCEP Wind and Biomass Projects

Installed by Program since 2001

| NJCEP Biomass Installation Projects by Program | | | |
|---|------------|----------|-----------------|
| Installed Projects 2001 to 12/31/2009 | | | |
| Program | # Projects | Total kW | Total Rebate \$ |
| CORE Rebate | 11 | 7,971.0 | \$ 6,085,399 |
| Grid Supply / REAP | 4 | 21,150.0 | \$ 7,113,225 |
| Total* | 15 | 29,121.0 | \$ 13,198,624 |

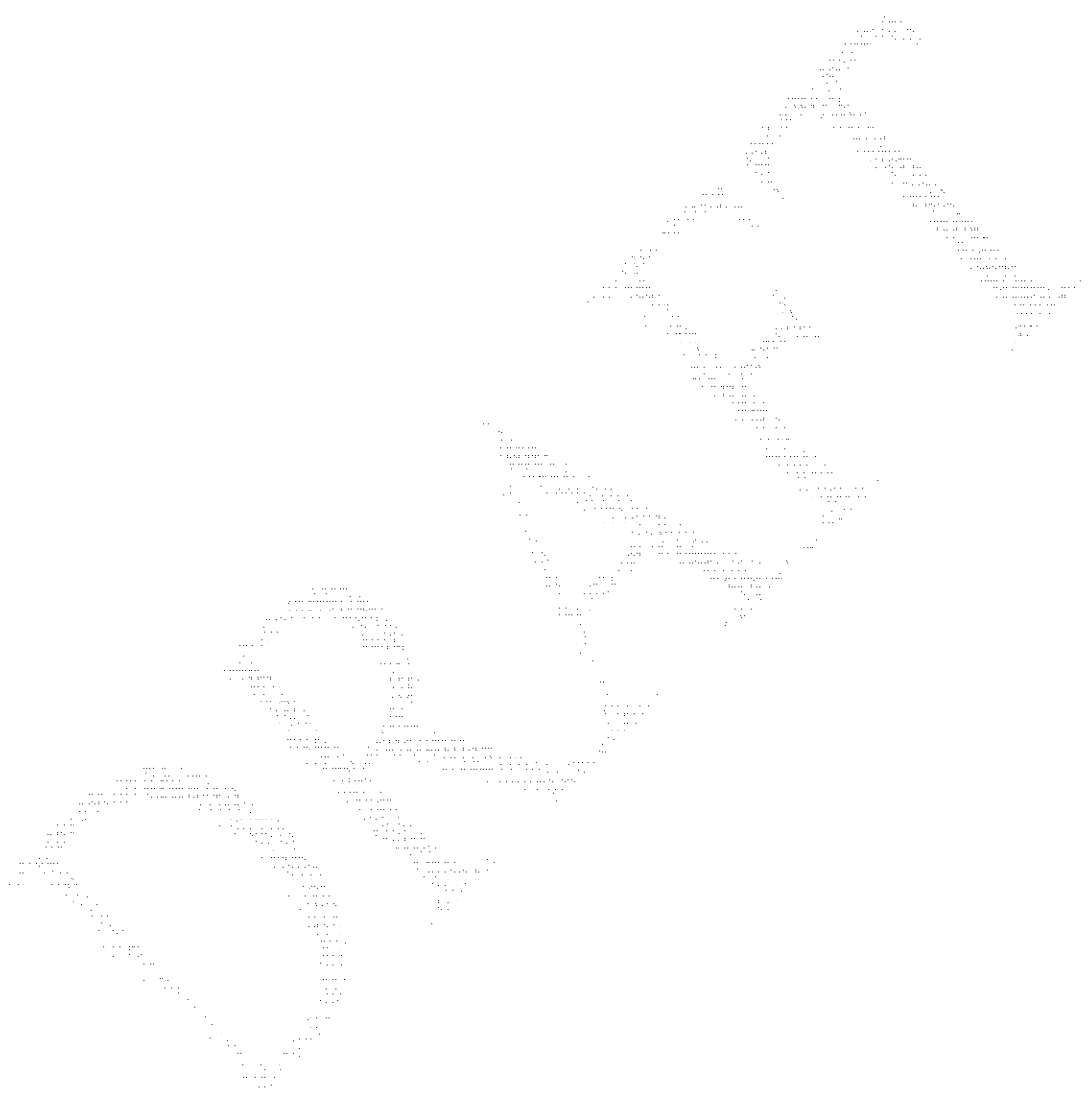
| NJCEP Wind Installation Projects by Program | | | |
|--|------------|----------|-----------------|
| Installed Projects 2001 to 12/31/2009 | | | |
| Program | # Projects | Total kW | Total Rebate \$ |
| CORE Rebate | 21 | 2,875.1 | \$ 2,552,394 |
| REIP Rebate | 5 | 52.8 | \$ 165,813 |
| Grid Supply / REAP | 1 | 4,875.0 | \$ 1,700,000 |
| Total* | 27 | 7,802.9 | \$ 4,418,207 |

| | | | |
|--------------------|----|-----------|---------------|
| Total Wind and Bio | 42 | 36,923.87 | \$ 17,616,831 |
|--------------------|----|-----------|---------------|

Total* = Program to date totals for paid projects plus projects pending payment; preliminary results subject to true-up based upon inspection results.

Adding further to the REC supply forecast challenge, the estimation of MWh production from installed capacity, and hence forecasting the NJ Class I REC creation from the PJM-wide resources, cannot be accurately accomplished using a protocol for statewide aggregated capacity since wind and biomass installation capacity factors are more widely variable.

Appendix 6 shows how the supply of NJ Class II RECs, both by fuel type and source state, have changed since RY06. NJ MSW facilities contributed the greatest number of Class II RECs used for RPS compliance in RY09.



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Appendix 6. Class II RECs retired for compliance with NJ RPS by State and Fuel Type

Appendix 7. Class I and II RECs retired for NJ RPS Compliance by Source State

Appendix 1. Evolution of NJ RPS Percentage Requirements by Year

| Original Interim Standards in EDECA, Adopted by NJBPU | | |
|---|---------|----------|
| Passed Feb. 1999 | | |
| Effective 2001 | | |
| | Class I | Class II |
| Beginning | | |
| 01/01/01 | 0.50% | 2.50% |
| 2002 | 0.50% | 2.50% |
| 2003 | 0.75% | 2.50% |
| 2004 | 0.75% | 2.50% |
| 2005 | 0.75% | 2.50% |
| 2006 | 1.00% | 2.50% |
| 2007 | 1.50% | 2.50% |
| 2008 | 2.00% | 2.50% |
| 2009 | 2.50% | 2.50% |
| 2010 | 3.00% | 2.50% |
| 2011 | 3.50% | 2.50% |
| 1/1/2012 | 4.00% | 2.50% |

| RPS Rule Revised in 2006 | | | | | |
|--------------------------|----------------------|---------|------------------------|---------|----------|
| Effective May 15, 2006 | | | | | |
| | Solar (if 03 BGS) | Solar | Class I (if 03 BGS) | Class I | Class II |
| CY01 | - | - | - | - | - |
| CY02 | - | - | - | - | - |
| CY03 | - | - | - | - | - |
| CY04 | - | - | 0.75% | - | - |
| RY05 | 0.000% | 0.01% | 0.75% | 0.74% | 2.500% |
| RY06 | 0.000% | 0.0170% | 1.000% | 0.983% | 2.500% |
| RY07 | - | 0.0393% | - | 2.037% | 2.500% |
| RY08 | - | 0.0817% | - | 2.924% | 2.500% |
| RY09 | - | 0.1600% | - | 3.840% | 2.500% |
| RY10 | - | 0.2210% | - | 4.685% | 2.500% |
| RY11 | - | 0.3050% | - | 5.492% | 2.500% |
| RY12 | - | 0.3940% | - | 6.320% | 2.500% |
| RY13 | - | 0.4970% | - | 7.143% | 2.500% |
| RY14 | - | 0.6210% | - | 7.977% | 2.500% |
| RY15 | - | 0.7650% | - | 8.807% | 2.500% |
| RY16 | - | 0.9280% | - | 9.649% | 2.500% |
| RY17 | - | 1.1180% | - | 10.485% | 2.500% |
| RY18 | - | 1.3330% | - | 12.325% | 2.500% |
| RY19 | - | 1.5720% | - | 14.175% | 2.500% |
| RY20 | - | 1.8360% | - | 16.029% | 2.500% |
| RY21 | - | 2.1200% | - | 17.880% | 2.500% |

| RPS Rule revised in 2004 | | | | |
|--------------------------|---|---------|------------------------|---------------|
| Effective April 19, 2004 | | | | |
| | Solar (if 03 BGS) | Solar | Class I (if 03 BGS) | Class II |
| CY01 | - | - | - | - |
| CY02 | - | - | - | - |
| CY03 | - | - | - | - |
| CY04 | - | - | 0.75% | - |
| RY05 | 0.000% | 0.01% | 0.75% | 0.740% 2.500% |
| RY06 | 0.000% | 0.0170% | 1.000% | 0.983% 2.500% |
| RY07 | - | 0.0393% | - | 2.037% 2.500% |
| RY08 | - | 0.0817% | - | 2.924% 2.500% |
| RY09 | - | 0.1600% | - | 3.840% 2.500% |
| and beyond | N J A C 14:4-8.3 "no lower than those required for reporting year 2008 (changed to RY09 by inference of Secretaries letter on reporting year designation) | | | |

Appendix 2. List of Regulated Load Serving Entities with NJ RPS Obligations in RY09

Third Party Suppliers

American PowerNet
Commerce Energy
ConEd Solutions
Constellation New Energy
Direct Energy Business
Direct Energy Services
RRI Energy Solutions
First Energy Solutions
Gerdau Ameristeel Energy
Glacial Energy NJ
IntegrYS Energy Services
Hess
Liberty Power Holdings
Linde Energy Services
Pepco Energy Services
Sempra Energy
South Jersey Energy
Valero
Suez Energy Resources
UGI Energy Services

BGS Providers

ConEd Energy
Constellation Power Source
DTE Energy
Energy America
NextEra Power
Jersey Central Power and Light
JP Morgan
Exelon Gen Power
NRG Power
PPL EnergyPlus
PSEG ER&T
J. Aron
IntegrYS Energy Services
Hess
Connectiv Energy Supply
Morgan Stanley
Sempra Energy
Rockland Electric CO

Appendix 3. NJ RPS Compliance by Reporting Year

| | RY05 | RY06 | RY07 | RY08 | RY09 |
|--|------------|------------|------------|-------------|--------------|
| Total retail sales of obligated LSEs (MWh) | 73,674,845 | 84,353,329 | 83,314,518 | 80,028,793 | 81,416,156 |
| Class I REC obligation (MWh) | 545,194 | 834,832 | 1,697,117 | 2,340,042 | 3,126,380 |
| Class I RECs retired for RPS (MWh) | 527,160 | 845,702 | 1,697,364 | 2,341,702 | 3,127,491 |
| Class I ACPs Purchased (MWh) | 0 | 19 | 539 | 200 | 0 |
| Cost of Class I ACPs (\$) | \$0 | \$950 | \$26,950 | \$10,000 | \$0 |
| Class II REC obligation (MWh) | 1,072,354 | 1,681,503 | 3,421,970 | 4,691,944 | 6,253,871 |
| Class II RECs retired for RPS (MWh) | 1,599,514 | 2,528,174 | 5,146,823 | 7,043,846 | 9,381,362 |
| Class II ACPs Purchased (MWh) | 0 | 47 | 0 | 0 | 0 |
| Cost of Class II ACPs (\$) | \$0 | \$2,350 | 0 | 0 | 0 |
| Retail Sales obligated for Solar | 57,140,000 | 61,470,091 | 83,314,518 | 80,028,793 | 81,416,156 |
| SREC obligation (MWh) | 5714 | 10,450 | 32,743 | 65,384 | 130,266 |
| SRECs retired for RPS (MWh) | 5714 | 10,723 | 31,541 | 49,617 | 75,532 |
| SACPs Purchased (MWh) | 2640 | 163 | 1,232 | 15,768 | 54,738 |
| Cost of SACPs (\$) | \$792,132 | \$48,900 | \$369,600 | \$4,730,400 | \$38,918,718 |

(NJ RPS Reporting Years are classified by the year in which they end, i.e., RY07 was 06/01/06 to 05/31/07)

Appendix 4. NJ RPS REC Generation and Retirement in the GATS Trading Platform

Total RECs generated by GATS by RY and Resource

| NJ Program | RY 2006 | RY 2007 | RY 2008 | RY 2009 |
|------------|-----------|-----------|-----------|-----------|
| Solar | 0 | 0 | 0 | 14,673 |
| Class I | 1,419,071 | 2,369,313 | 4,363,692 | 6,643,704 |
| Class II | 5,659,786 | 6,203,686 | 5,438,872 | 5,492,792 |

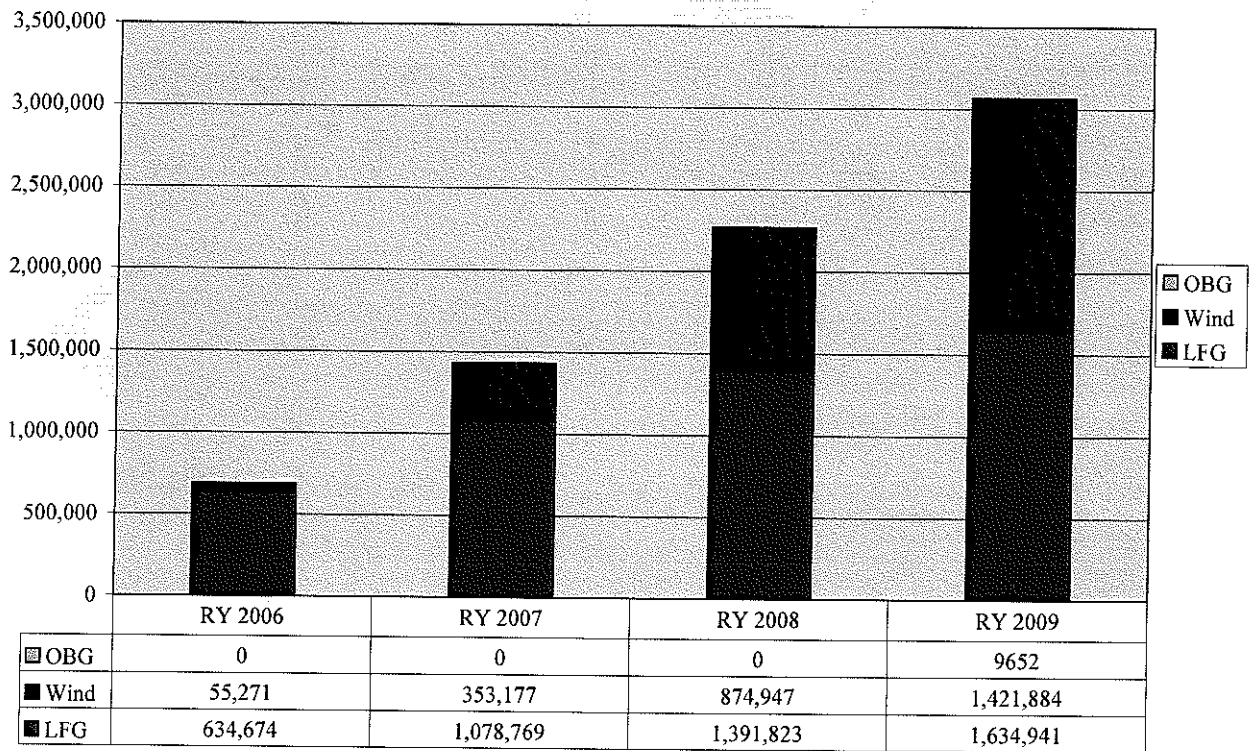
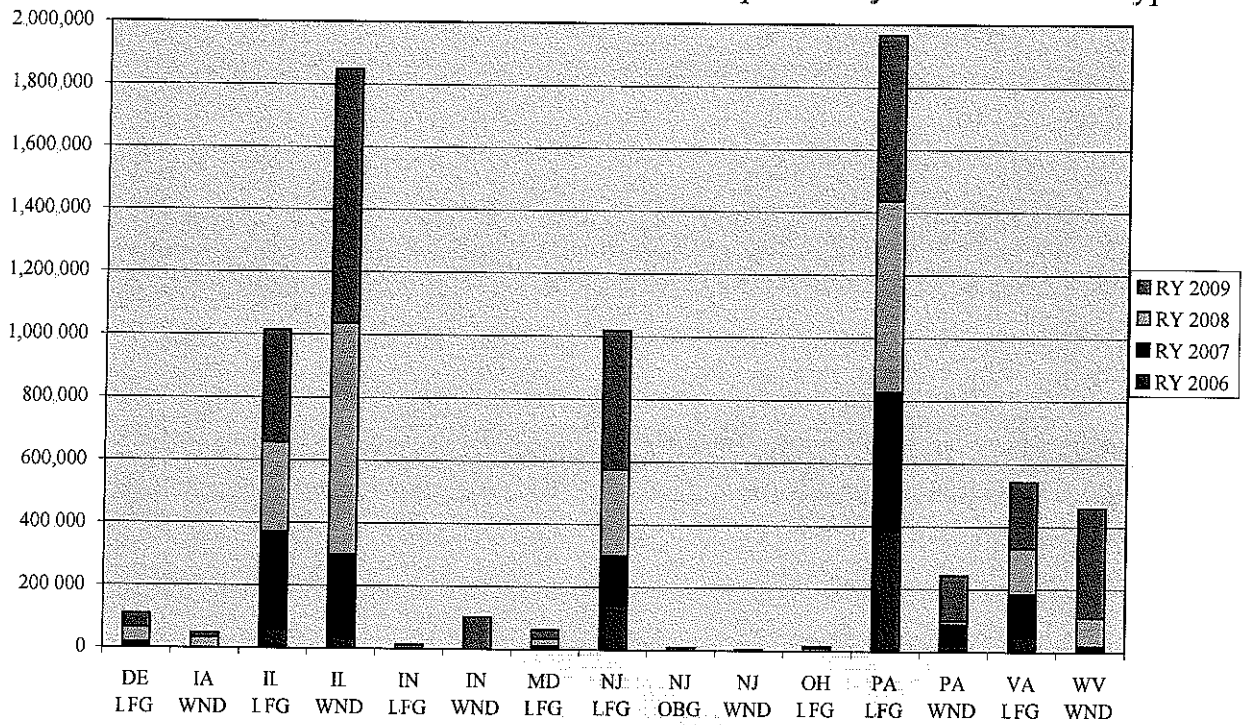
Total RECs retired in GATS RY and Program

| NJ Program | RY 2006 | RY 2007 | RY 2008 | RY 2009 |
|------------|-----------|-----------|-----------|-----------|
| Solar | 0 | 0 | 0 | 14,071 |
| Class I | 689,945 | 1,431,946 | 2,266,770 | 3,116,471 |
| Class II | 1,230,496 | 1,150,400 | 1,127,189 | 1,828,805 |

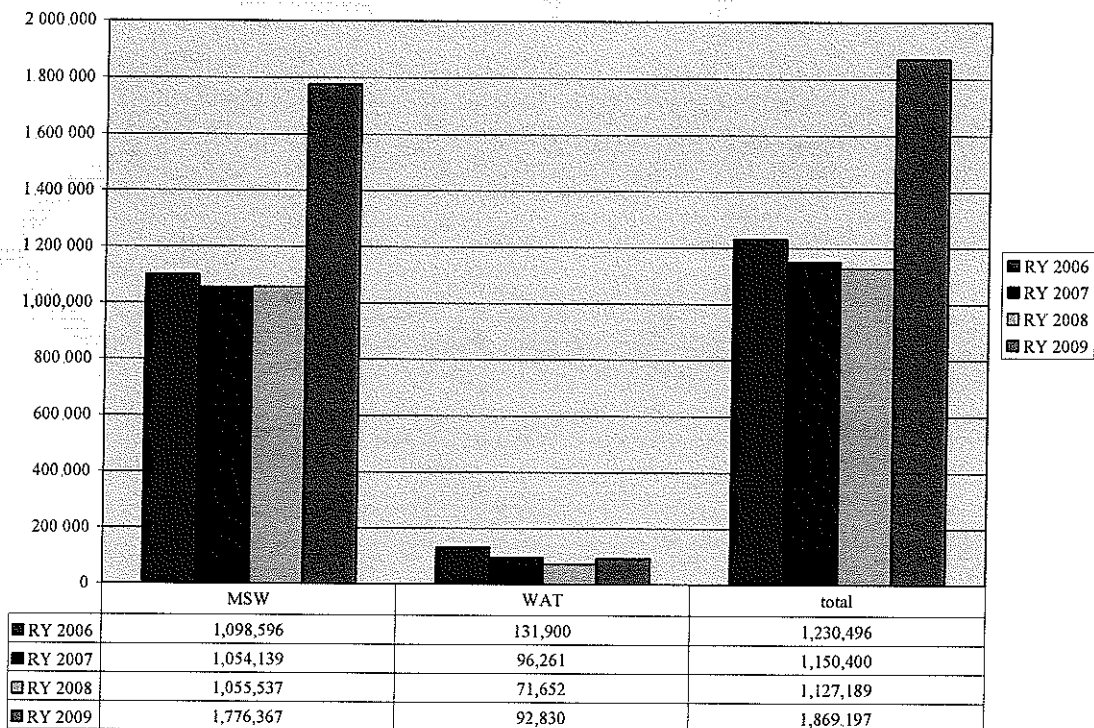
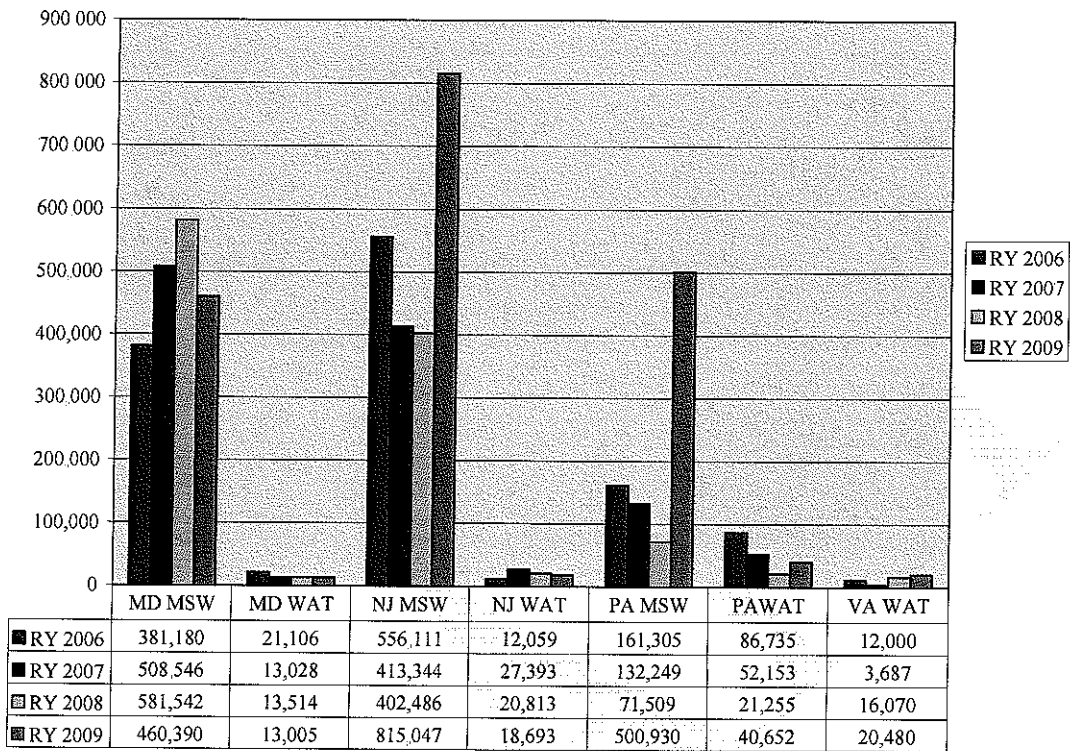
Total RECs retired in GATS by RY, Fuel Type, Location and Resource

| NJ Resource | Location | Fuel Type | RY 2006 | RY 2007 | RY 2008 | RY 2009 | |
|-------------|----------|-----------|---------|---------|---------|---------|---------|
| Class I | Solar | NJ SUN | 0 | 0 | 0 | 14,071 | |
| | Class I | DE | LFG | 0 | 17,625 | 46,360 | 44,584 |
| | | IA | WND | 0 | 0 | 33,300 | 15,000 |
| | | IL | LFG | 59,209 | 312,995 | 285,017 | 356,590 |
| | | | WND | 33,762 | 266,536 | 736,743 | 811,827 |
| | | IN | LFG | 0 | 0 | 0 | 12,298 |
| | | | WND | 0 | 0 | 0 | 101,620 |
| | | MD | LFG | 882 | 9,890 | 23,962 | 27,879 |
| | | | LFG | 140,701 | 159,408 | 274,360 | 444,090 |
| | | NJ | OBG | 0 | 0 | 0 | 9,652 |
| | | | WND | 0 | 3,098 | 0 | 0 |
| | | OH | LFG | 0 | 0 | 7,885 | 7,390 |
| | | PA | LFG | 384,929 | 443,175 | 607,835 | 530,800 |
| | | | WND | 21,509 | 65,169 | 13,173 | 143,880 |
| VA | LFG | | 48,953 | 135,676 | 146,404 | 211,310 | |
| WV | WND | | 0 | 18,374 | 91,731 | 349,557 | |
| Class II | MD | MSW | 381,180 | 508,546 | 581,542 | 460,390 | |
| | | WAT | 21,106 | 13,028 | 13,514 | 13,005 | |
| | NJ | MSW | 556,111 | 413,344 | 402,486 | 815,047 | |
| | | WAT | 12,059 | 27,393 | 20,813 | 18,693 | |
| | PA | MSW | 161,305 | 132,249 | 71,509 | 500,930 | |
| | VA | WAT | 86,735 | 52,153 | 21,255 | 40,652 | |
| VA | WAT | 12,000 | 3,687 | 16,070 | 20,480 | | |

Appendix 5. Class I RECs retired for NJ RPS compliance by State and Fuel Type

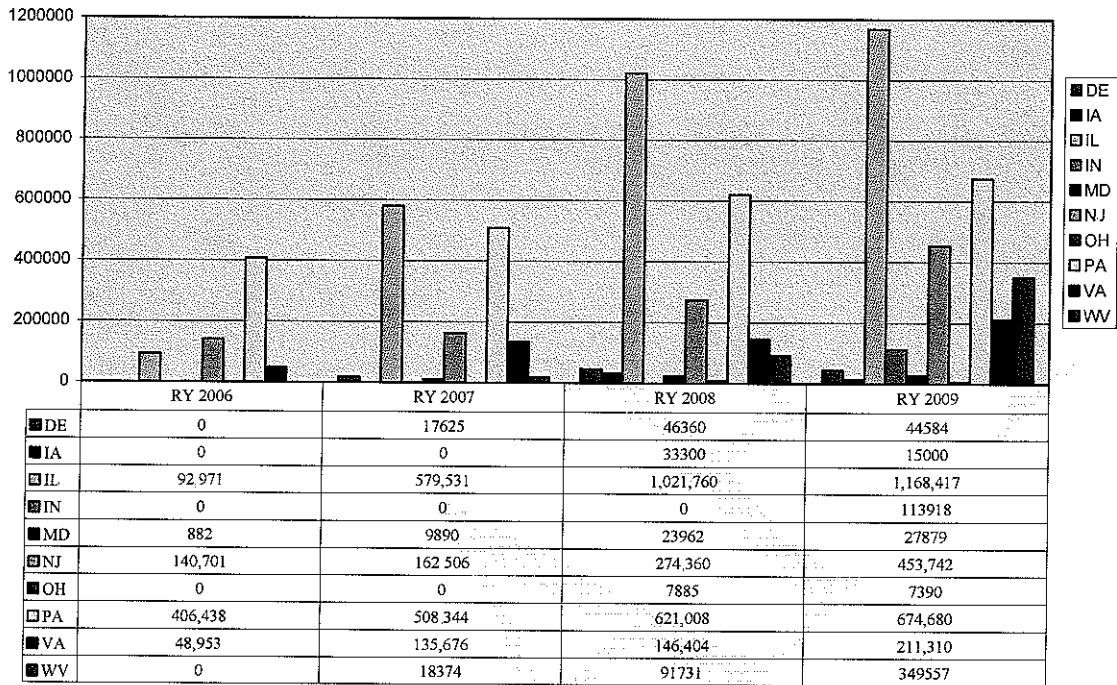


Appendix 6. Class II RECs retired for NJ RPS compliance by State and Fuel Type



Appendix 7. Class I and II RECs retired for NJ RPS Compliance by Source State

Class I Recs Retired by State by RY (not including solar)



Class II RECs Retired by Source State

