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 1999[1], 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. 14:8-2[4]. 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 ends[5] (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

RY	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.