

## **EVALUATION REPORT**

**Proposals Received on September 16,  
2014 in Response to Request for Proposals  
for a Developer of Photovoltaic Systems to  
be Located on Certain Lands Owned by  
Vernon Township Board of Education,  
Sussex County, State of New Jersey**

**Prepared for:**

**Vernon Township Board of Education**

**By:**

**The Vernon Township BOE Evaluation Team**

**Dated:**

**November 18, 2014**

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# Evaluation Report Table of Contents

<b>Report Sections</b>	<b>Page</b>
Executive Summary.....	2
1. Overview of the RFP .....	6
2. Responses to RFP .....	10
3. Proposal Evaluation Matrix.....	11
4. Financial Benefits and Cost Proposal Evaluation .....	12
5. Technical Design/Approach.....	20
6. Respondent’s Experience .....	29
7. Financial Background .....	36
8. Oral Interview Evaluation .....	40
9. Recommendation – Successful Respondent .....	45

## **Attachments**

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<b>Solar Proposal Summary</b>	<b>Att. 1</b>
<b>Forecasted Energy Cost Savings</b>	<b>Att. 2</b>
<b>Solar Statistics</b>	<b>Att. 3</b>
<b>Sensitivity Analysis</b>	<b>Att. 4</b>
<b>Evaluation Matrix</b>	<b>Att. 5</b>

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## Executive Summary

This Report is provided pursuant to requirements of the competitive contracting provisions of the Public School Contracts Law, specifically, N.J.S.A. 18A:18A-4.1(k); LFN 2008-20, dated December 3, 2008, *Contracting for Renewable Energy Services*; BPU protocol for measuring energy savings in PPA agreements (*Public Entity Energy Efficiency and Renewable Energy Cost Savings Guidelines*, dated February 20, 2009); LFN 2009-10, dated June 12, 2009, *Contracting for Renewable Energy Services: Update on Power Purchase Agreements*, and all other applicable law.

The purpose of the Evaluation Report is to provide the Vernon Township Board of Education (Vernon or BOE), with an evaluation of proposals received and to provide a recommendation to the BOE.

The goal of the BOE in administering the Renewable Energy Program was to implement a solar energy project that is environmentally responsible and economically beneficial to the BOE. To this end, on July 28, 2014, Vernon issued a Request for Proposals (RFP), as amended, for a Power Purchase Agreement (PPA) for the purchase by the BOE of electricity generated by photovoltaic solar energy systems (Systems) to be designed, permitted, acquired, constructed, installed, operated and maintained by the successful respondent to the RFP, at its sole cost and expense (Successful Respondent) to be located on certain facilities and lands owned by Vernon Township Board of Education, in the County of Sussex, State of New Jersey.

The RFP contained a preliminary feasibility assessment<sup>1</sup> performed by the BOE's energy consultant, Gabel Associates, which estimated the technical potential for the System at the BOE Facilities. The BOE sought proposals for four (4) options. Proposal Option 1 included the High School roof only. Option 2 included the High School roof and the ground area located near Lounsberry School. Option 3 is identical to Option 1 except that it allowed Respondents to propose the inclusion of one or more energy storage devices, where deemed appropriate by the Respondent. Option 4 is identical to Option 2 except that it allowed Respondents to propose the inclusion of one or more energy storage devices, where deemed appropriate by the Respondent. Respondents were required to propose on Option 1 and 2 and were given the choice of proposing on Options 3 and 4 or any other feasible alternate strategy. Under the RFP, the BOE retained sole discretion to select the option under which the PPA will be awarded.

As set forth in the RFP, the Successful Respondent and Vernon will enter into a 15 year PPA under which the BOE will purchase electricity produced from the Systems at a fixed rate per kWh. Pursuant to law, the PPA price must be lower than the delivered cost of power from the local electric utility company; i.e. Jersey Central Power and Light (JCP&L) and Sussex Rural Electric Cooperative (Sussex Rural). This PPA structure

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<sup>1</sup> The assessment included an analysis of available ground area (as provided by the BOE), approximate system sizing and BOE electric usage data, including on-peak usage limitations.

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provides the BOE with a reduction in its energy expenditures and insulates it from price increases in the electricity market during the 15 year term of the PPA.

Pursuant to the RFP, the Successful Respondent will finance, design, permit, acquire, construct, install, operate and maintain the Systems, all in accordance with the terms set forth on the Successful Respondent's PPA Price Quotation Proposal Forms. The Successful Respondent will also have all ownership rights to the Solar Renewable Energy Credits (SRECs) generated by the Systems at the BOE Facilities and will monetize the SRECs.

To evaluate proposals, the BOE organized an evaluation team comprised of: Steven Kepnes, Vernon BOE Business Administrator; Ryan J. Scerbo, Esq., of DeCotiis, FitzPatrick & Cole, LLP; and Joseph Santaiti, Brian Bizjak and Isaac Gabel-Frank of Gabel Associates (collectively, Evaluation Team). The Evaluation Team assisted in developing and implementing the RFP, administering the procurement process, conducting oral interviews and drafting this Evaluation Report for the BOE.

The procurement and evaluation process was undertaken in accordance with the competitive contracting provisions of the Local Public Contracts Law, specifically, N.J.S.A. 40A:11-4.1(k) and the Public School Contracts Law, specifically, N.J.S.A. 18A:18A-4.1(k); LFN 2008-20, dated December 3, 2008, Contracting for Renewable Energy Services; BPU protocol for measuring energy savings in PPA agreements (Public Entity Energy Efficiency and Renewable Energy Cost Savings Guidelines, dated February 20, 2009); LFN 2009-10, dated June 12, 2009, Contracting for Renewable Energy Services: Update on Power Purchase Agreements, and all other applicable law.

Vernon received five (5) proposals on September 16, 2014 in response to the RFP, including: Ray Angelini Inc. (RAI) and Marina Energy LLC, (collectively Marina); NextEra Energy Resources Acquisitions and Dobtoll Construction, LLC, (collectively NextEra); EZNergy and NRG Renew (collectively NRG); Solar City; and SunEdison and Advanced Solar Products (collectively SunEdison).

The proposals submitted by Solar City and SunEdison included proposals for all four options. Neither NextEra, NRG nor Marina proposed a battery back-up component (Options 3 and 4).

Following a legal review for compliance purposes, the Evaluation Team conducted a savings analysis of the proposals submitted by each Respondent to determine cost savings to the BOE. The Evaluation Team proceeded to Phase III and conducted an interview with each of the five Respondents as part of the evaluation process.

The evaluation of all proposals was conducted in accordance with an evaluation matrix (Evaluation Matrix) that is based on a total potential score of 100. The proposals were evaluated based upon the following criteria and weighting factors:

Financial Benefits (52 points)	Net Present Value (NPV) of Benefits
	PPA Price
	Option - Sharing of Benefits

Technical Design/Approach (10 points)	Design Strategy Project Team Approach O&M Plan and Approach Inclusion of Battery Back-up System
Respondent Experience (13 points)	Project Management Contractor Expertise Project Experience New Jersey Experience
Financial Strength (15 points)	Financial Capability/Strength of Provider
Oral Interview Evaluation (10 points)	Presentation Explanation Key Factors Understanding Financial Factors/SREC Market

After reviewing each proposal and conducting an interview, the Evaluation Team scored the proposals in accordance with the established criteria above. The chart below summarizes the scores each proposal received:

<b>Proposer</b>	<b>Option</b>	<b>PPA Rate</b>	<b>Annual Escalation</b>	<b>Score</b>
<b>Marina</b>	1	\$0.0725	2.0%	62
<b>Marina</b>	2	\$0.065	2.0%	82
<b>NextEra</b>	1	\$0.069	2.5%	66
<b>NextEra</b>	2	\$0.069	2.5%	80
<b>NRG</b>	1	\$0.062	2.0%	68
<b>NRG</b>	2	\$0.062	2.0%	84
<b>Solar City</b>	1	\$0.06	2.2%	67
<b>Solar City</b>	2	\$0.059	2.2%	87
<b>Solar City</b>	4	\$0.068	2.2%	86
<b>Solar City</b>	2b	\$0.057	2.2%	94
<b>Solar City</b>	4b	\$0.07	2.2%	90
<b>SunEdison</b>	1	\$0.073	2.5%	58
<b>SunEdison</b>	2	\$0.071	2.5%	71
<b>SunEdison</b>	3	\$0.047*	2.5%	71
<b>SunEdison</b>	4	\$0.047*	2.5%	92

\* Floating rate as described more fully in Section 4 of this Evaluation Report.

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## Summary of Benefits

The objectives of the BOE's solar initiative are to save money on electricity expenditures; achieve long-term price stability for electricity expenditures; promote a "green" image and concern for the environment; and maximize the educational and/or vocational attributes that can be derived from the initiative for the students and faculty of the BOE.

The basic terms of each Respondent's proposal are set forth in detail in **Attachment 1**.

All of the proposals received by the BOE will allow the BOE to realize the following benefits:

- The implementation of a renewable energy system that is both environmentally responsible and economically beneficial.
- Obtain a stable and known cost of electricity for 15 years for a significant portion of its electricity needs.
- The installation of a solar powered energy source that provides a domestic source of energy and which decreases our dependence on foreign fossil fuel sources.
- The reduction of the BOE's carbon footprint for the term of the PPA and, potentially, beyond.
- Under Solar City's Proposal Option 2b, obtain renewable energy for the Rolling Hills School in addition to the High School and Lounsberry.

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## 1. Overview of the RFP

On July 28, 2014, the BOE issued an RFP for a PPA for the purchase by the BOE of electricity generated by the System to be financed, designed, installed, owned, operated and maintained by the Successful Respondent at the BOE's Facilities. This RFP provided for four (4) proposal options. Respondents were required to propose on Options 1 and 2 and had the option of proposing on Options 3 and 4 or any alternative strategy. Proposal Option 1 included a roof-mounted solar installation at the High School only. Proposal Option 2 included a roof-mounted solar installation at the High School and a ground-mounted solar installation at the Lounsberry School. Proposal Option 3 included a roof-mounted solar installation at the High School with an integrated energy storage system. Proposal Option 4 included a roof-mounted solar installation at the High School and a ground-mounted solar installation at the Lounsberry School with an integrated energy storage system at one or both Facilities. Under the RFP, the BOE retained sole discretion to select the option under which the PPA will be awarded.

The Successful Respondent and the BOE will enter into a PPA for 15 years, the maximum duration permitted by State law, under which the BOE will purchase the electricity produced from the Systems at a fixed rate per kWh. The PPA rate must be less than the local utility electric tariff. It is anticipated that the Successful Respondent will finance the project through a combination of revenues derived from the sale to the BOE of the electrical output of the Systems, the sale of Solar Renewable Energy Certificates (SRECs) in the competitive SREC market, federal tax benefits (i.e. both investment tax credits and timing benefits associated with accelerated depreciation) and investor capital.

At the end of the PPA term, the BOE will have the following three options:

1. Renegotiation of an extension of the PPA if allowable by law; or
2. Purchase the Systems at fair market value (FMV); or
3. Removal of the Systems at the Successful Respondent's expense.

Proposals were evaluated on the basis of price and non-price criteria, in accordance with competitive contracting provisions of the Public School Contracts Law, specifically, N.J.S.A. 18A:18A-4.1(k); LFN 2008-20, dated December 3, 2008, *Contracting for Renewable Energy Services*; BPU protocol for measuring energy savings in PPA agreements (*Public Entity Energy Efficiency and Renewable Energy Cost Savings Guidelines, dated February 20, 2009*); LFN 2009-10, dated June 12, 2009, *Contracting for Renewable Energy Services: Update on Power Purchase Agreements*, and all other applicable law.

Components of the RFP are summarized as follows:

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## Solar Systems Size

A preliminary feasibility assessment was performed by the BOE's energy consultant to identify the technical potential for the Systems at the BOE Facilities. Based upon this preliminary assessment, the Systems was estimated to have a total capacity of approximately 1,336 kW DC. The preliminary system size was to be used by Respondents as a guide only. The preliminary system size was conservatively selected to utilize the available roof and ground area provided.

Additionally, the RFP provided twelve months of electric usage data, tariff information and cost information for the BOE Facilities.

## Pricing Requirements

The RFP requested a PPA Price and an annual escalation factor from Respondents for Option 1 and Option 2. Respondents were only required to propose on Option 1 and 2. Respondents had the option of (a) submitting proposals containing a battery storage option under Options 3 and 4, or (b) submitting an alternative proposal. In addition, all Respondents were required to provide a price adjustment factor to account for any unforeseen structural and/or electrical interconnection costs in excess of \$50,000. Respondents were also required to provide a price adjustment factor for any changes to project development costs for every \$10,000.

### ***Options1 & 2***

If proposing on Options 1 or 2, the RFP required Respondents to propose:

- A PPA price per kWh.
- A PPA Price post proposal adjustment factor, expressed in dollars per kWh, to adjust the PPA price under one or both of the following circumstances: following submission of an interconnection application to JCP&L and Sussex Rural, additional unforeseen electrical related upgrades are required by JCP&L as part of the interconnection process – e.g., transformer upgrade(s). Respondents were required to submit up to three post-proposal PPA Price adjustment factors for the following ranges of unforeseen costs in excess of \$50,000.
  - A. \$50,000 - \$99,999.99
  - B. \$100,000 - \$149,999.99
  - C. \$150,000 and above
- A PPA Price post proposal adjustment factor, expressed in dollars per kWh, in the initial year of the PPA Price (from the Commencement Date) in the event that the Project Development Costs (presently estimated at \$105,000.00 for Option 1 and \$127,500.00 for Option 2) increase or decrease (See RFP Section 2.1). The annual adjustment proposed shall be for each \$10,000 increase or decrease in



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the Project Development Costs. Project Development Costs shall be paid by the Successful Respondent to the BOE at the time of PPA execution.

Respondents were permitted, but not required, to propose an escalation factor expressed as an annual percentage increase from the prior year's PPA price.

***Option 3 & 4 (Solar Battery Back-Up System Opportunity)***

These Options are the same as Options 1 and 2 above, respectively, except that these Options provided Respondents the option to provide a battery storage system as part of their Proposals.

In light of the recent storms, Hurricane Irene, the October 2011 snow storm and Superstorm Sandy, boards of education across the east coast are seeking reliable sources of emergency power generation. Traditional emergency power generation sources include diesel, gasoline or propane systems that require expensive fuel, costly maintenance and emit carbon dioxide pollutants.

For this reason, Respondents were strongly encouraged to consider including a renewable energy storage component as part of their Option 3 and 4 proposals so that the storage device and the Systems could function to provide back-up power to the BOE in the event of a grid failure. Respondents were informed through the RFP that the Evaluation Team would give special consideration to Respondents that offered energy storage technology as part of their proposal. This Option is the same as Options 1 and 2 only it gave Respondents the option to provide a battery storage system.

**Technical Requirements**

The RFP provided Technical Specifications (Appendix C of the RFP) as a preliminary guide for the final design of Respondents' proposed Systems. These plans were to be used as the minimum requirements to satisfy the RFP.

**Form of Proposals and Required Forms**

Proposals were required to include the following information about each Respondent:

- Respondent History/Qualifications; and
- Financial Qualifications.

Proposals were also required to include the following:

- Proposal Pricing Information specified in Appendix D of the RFP;
- End of Contract Provisions as outlined in Section 3.15 of the RFP;
- Proposed System Technical Design consistent with Appendix C of the RFP, including system size (KW and KWH), project time schedule, and list of permits;

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- The guaranteed amount of solar production consistent with Appendix B, as a minimum;
  - Bonding requirements consistent with Article 4 of this RFP;
  - Insurance Requirements consistent with Section 4.5 of the RFP;
  - A proposed project completion schedule; and,
  - Early Termination Purchase Price Schedule.

Proposals were also required to include the following documents:

- i. New Jersey Business Registration Certificate
- ii. Non-Collusion Affidavit
- iii. Ownership Disclosure Statement
- iv. Affirmative Action Compliance
- v. Consent of Surety
- vi. Proposal Security
- vii. Acknowledgement of Receipt of Addenda
- viii. Consent to Investigation
- ix. Disclosure of Investment Activities in Iran
- x. Proposal Checklist

### **Evaluation Process**

To evaluate the proposals, the BOE organized the Evaluation Team and developed an Evaluation Matrix prior to the issuance of the RFP. The Evaluation Matrix includes a three-part process:

- Phase I (legal compliance) is a checklist to determine if the Respondent has included all documentation and information in its Proposal required by the RFP. Once all requirements have been satisfied, a Respondent qualifies to move to Phase II of the evaluation.
- Phase II is a weighted rating of the value provided by the proposal across several categories (financial benefits, technical design, experience, qualifications and financial strength) and evaluation of factors within those categories.
- Phase III is an oral interview of qualified Respondents and final evaluation.

The Respondent with the top ranking in Phases II and III will be recommended for award as the Successful Respondent.

## 2. Responses to RFP

Vernon received five (5) proposals in response to the RFP from the following proposers: Ray Angelini Inc. (RAI) and Marina Energy LLC, (collectively Marina); NextEra Energy Resources Acquisitions and Dobtol Construction, LLC, (collectively NextEra); EZNergy and NRG (collectively NRG); Solar City; and SunEdison.

The proposals provided all of the necessary documentation as required of Respondents by the RFP.

Table 1 provides an overview of the five proposals that were submitted to the BOE.

**Table 1: Overview of Received Proposal**

Respondent	RFP Options	KW	PPA Rate	Escalation
Marina	1	602.64	\$0.0725	2.0%
Marina	2	1,333.62	\$0.065	2.0%
NextEra	1	872.24	\$0.069	2.5%
NextEra	2	1,477.04	\$0.069	2.5%
NRG	1	733	\$0.062	2.25%
NRG	2	1,336	\$0.062	2.25%
Solar City	1	701.5	\$0.06	2.2%
Solar City	2	1,304.18	\$0.059	2.2%
Solar City	4	1,304.18	\$0.068	2.2%
Solar City	2b	1,628.70	\$0.057	2.2%
Solar City	4b	1,628.70	\$0.070	2.2%
SunEdison	1	599.76	\$0.073	2.5%
SunEdison	2	1,199.52	\$0.071	2.5%
SunEdison	3	599.76	\$0.047*	2.5%
SunEdison	4	1,199.52	\$0.047*	2.5%

\* Floating rate as described more fully in Section 4 of this Evaluation Report.

**Attachment 1** contains a detailed summary of the key information from the proposals submitted by each Respondent

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### 3. Proposal Evaluation Matrix

All five (5) proposals proceeded to Phase II and III evaluations in accordance with the process defined in the RFP. The evaluation was conducted pursuant to the Evaluation Matrix, which is based on a total potential score of 100. The Evaluation Matrix is broken into the following criteria and weighting factors.

Financial Benefits (52 points)	NPV of Benefits - PPA Price Option - Sharing of Benefits
Technical Design/Approach (10 points)	Design Strategy Project Team Approach O&M Plan and Approach Inclusion of Battery Back-up System
Respondent Experience (13 points)	Project Management Contractor Expertise Project Experience New Jersey Experience
Financial Strength (15 points)	Financial Capability/Strength of Provider
Oral Interview Evaluation (10 points)	Presentation Explanation Key Factors Understanding Financial Factors/SREC Market

The Evaluation Matrix scoring is provided in **Attachment 5**. The following sections of this Evaluation Report provide a review of the evaluation criteria with respect to the proposals received.

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## 4. Economic Benefits and Cost Proposal Evaluation

Below is a summary of the economic benefits upon which the proposal was evaluated. The Proposal was awarded points in the Evaluation Matrix based on the Respondent's responses to the following criteria:

- NPV of Benefits; and,
- Sharing of Benefits.

### **Economic Benefits: Calculation Basis**

Vernon receives economic benefits from the installation of a solar project through the savings in energy costs realized by purchasing electricity supplied by the Systems through a PPA rather than from the local electric utility.

In calculating energy cost savings for the BOE, Gabel Associates prepared a forecast of the local utility tariff rate for Jersey Central Power and Light (JCP&L) and Sussex Rural Electric Cooperative (Sussex Rural) and compared it to the PPA rates proposed by the Respondent. The difference between the forecasted utility rate (those components that are no longer paid to the local delivery utility as a result of purchasing solar energy from the solar developer) and the PPA rate multiplied by the expected solar output yields the projected savings in energy costs realized through the installation of the Systems.

The Gabel Associates forecast of the local utility tariff rate is the result of a detailed analysis of the tariff, by component, over the term of the PPA. The BOE currently procures electricity from a competitive third party electric supplier, and Gabel Associates has also considered this when conducting the tariff analysis. This detailed analysis takes into account the following factors:

1. Those components of the utility tariff rate that are not avoided as a result of the solar installation. For example, the customer charge and the major portion of the demand charges are not avoided through the purchase of solar energy generated by the solar systems.
2. The most recent energy market fundamentals (i.e., New York Mercantile Exchange futures, Energy Information Administration long term escalation rates and environmental and RPS programs such as the SREC program) are incorporated to provide the best indication of future energy market prices.
3. The impact on future energy costs of national, state and regional environmental initiatives currently being considered, for example carbon cap and trade. The forecast includes the Environmental Protection Agency's low estimate for carbon legislation originally slated to start in 2012 but pushed out to 2015.

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4. The impact that general energy market escalation will have upon long-term energy prices.

All Proposal Options were evaluated based on the NPV of benefits, which recognizes the time value of money and the opportunity cost of capital, to the BOE. To calculate the NPV benefits provided by this Proposal, guaranteed production values were used. In addition, a 5.0% discount rate was assumed to calculate NPV of benefits. This also assumes an average annual retail electric escalation of 3.03% at the High School and 2.75% at the Lounsberry School. Finally, all calculated savings outlined below include the avoided capital costs for battery storage options where applicable. A summary of the NPV of benefits for each Proposal Option is set forth in **Attachment 1**.

Gabel Associates also conducted a sensitivity analysis surrounding retail electric escalation rates. This analysis assumed annual retail electric escalation rates of 6.0% and 0%. As shown in **Attachment 4**.

### **Marina/RAI**

RAI submitted two proposals, Option 1 at a PPA rate of \$0.0725 per kWh escalating at 2.00% annually, and Option 2 at a PPA rate of \$0.0650 per kWh escalating at 2.00% annually. Based on our in-depth analysis and forecast of the electric tariff, we determined that Option 1 would provide \$447,423 of nominal value and \$306,192 of NPV to Vernon while Option 2 would provide \$989,178 of nominal value and \$682,512 of NPV to Vernon.

### **NextEra**

NextEra submitted one proposal, Option 2 (NextEra later clarified that the PPA rate is the same for Option 1 and 2) at a PPA rate of \$0.0620 per kWh escalating at 2.50% annually. Based on our in-depth analysis and forecast of the electric tariff, we determined that Option 2 would provide \$939,319 of nominal value and \$650,773 of NPV value to Vernon.

### **NRG**

NRG submitted two proposals, Option 1 at a PPA rate of \$0.0620 per kWh escalating at 2.25% annually, and Option 2 at a PPA rate of \$0.0620 per kWh escalating at 2.25% annually. Based on our in-depth analysis and forecast of the electric tariff, we determined that Option 1 would provide \$601,702 of nominal value and \$415,711 of NPV to Vernon while Option 2 would provide \$1,061,114 of nominal value and \$734,849 of NPV to Vernon.

### **Solar City**

Solar City submitted five proposals, Option 1 at a PPA rate of \$0.0600 per kWh escalating at 2.20% annually, Option 2 at a PPA rate of \$0.0590 per kWh escalating at 2.20% annually, Option 4 at a PPA rate of \$0.0680 per kWh escalating at 2.20%

annually, Option 2b at a PPA rate of \$0.0570 per kWh escalating at 2.20% annually<sup>2</sup>, and Option 4b at a PPA rate of \$0.0700 per kWh escalating at 2.20% annually. Based on our in-depth analysis and forecast of the electric tariff, we determined that Option 1 would provide \$633,399 of nominal value and \$437,721 of NPV to Vernon, Option 2 would provide \$1,183,069 of nominal value and \$819,287 of NPV to Vernon, Option 4 would provide \$1,078,358 of nominal value and \$776,644 of NPV to Vernon, Option 2b would provide \$1,387,500 of nominal value and \$960,468 of NPV to Vernon, and Option 4b would provide \$1,159,995 of nominal value and \$846,893 of NPV to Vernon.

**SunEdison**

SunEdison submitted four proposals, Option 1 at a PPA rate of \$0.0730 per kWh escalating at 2.50% annually, Option 2 at a PPA rate of \$0.0710 per kWh escalating at 2.50% annually, Option 3 at a PPA rate of \$0.0470 per kWh escalating at a variable rate reflected in the SunEdison PPA Rate schedule below, and Option 4 at a PPA rate of \$0.0470 per kWh escalating at a variable rate reflected in the SunEdison PPA Rate schedule below.

**SunEdison PPA Rate Schedule**

<b>Year</b>	<b>Guaranteed PPA Rate</b>
1	\$0.0470
2	\$0.0482
3	\$0.0494
4	\$0.0610
5	\$0.0625
6	\$0.0750
7	\$0.0769
8	\$0.0788
9	\$0.0808
10	\$0.0828
11	\$0.0849
12	\$0.0870
13	\$0.0892
14	\$0.0914
15	\$0.0937

SunEdison provided an innovative “straddle-hedge” PPA structure which, upon clarification, provides the district with a PPA rate ceiling resulting in guaranteed savings throughout the lifetime of the PPA, as well as potential additional savings should the revenues generated from PJM’s frequency regulation markets be greater than initially

<sup>2</sup> It should be noted that Solar City’s Option 2b includes the Rolling Hills School as a third BOE Facility in addition to the High School and Lounsberry.

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projected by SunEdison. The SunEdison PPA rate is subsidized by, but not contingent upon, SunEdison's receipt of expected frequency regulation revenues which backstop the effective PPA rate to Vernon. SunEdison has guaranteed that the PPA rates will not increase above the levels illustrated in the SunEdison PPA Rate schedule above. Should the frequency regulation market provide revenues beyond the expected anticipated amount expected by SunEdison and used by SunEdison to backstop the PPA rate, the BOE would receive an effective PPA rate that would be lower than the PPA rate set forth in the chart above. Such an effective PPA Rate would be completely contingent upon SunEdison receiving frequency regulation revenues over a specific value.

Based on our in-depth analysis, information provided by SunEdison concerning frequency regulation, and forecast of the electric tariff, we determined that Option 1 would provide \$378,558 of nominal value and \$261,077 of NPV to Vernon, Option 2 would provide \$758,662 of nominal value and \$525,409 of NPV to Vernon, Option 3 would provide \$617,765 of nominal value and \$471,751 of NPV to Vernon, and Option 2b would provide \$1,159,585 of nominal value and \$889,181 of NPV to Vernon.

The above figures are based upon the guaranteed effective PPA rate offered by SunEdison in an attempt to insulate Vernon from any potential PPA pricing risk. It should be noted that should the frequency regulation market provide revenues exceeding the minimal expected amounts used by SunEdison to backstop the PPA rate, Vernon can expect increased savings as a result of a further reduced effective PPA rate. For example, should the regulation market average \$35 per MWh, the forecasted market clearing price according to SunEdison, then the district would receive approximately \$1,467,836 in nominal savings and \$1,084,538 in NPV savings. If the market exceeds the SunEdison forecast, and averages \$40 per MWh, the district would receive approximately \$1,740,870 in nominal savings and \$1,276,298 in NPV savings. For purposes of this evaluation report the additional potential value that could be derived by SunEdison's Proposal resulting from additional frequency regulation revenue is not guaranteed and therefore could not be used in the savings summary chart below.

### **Summary**

Solar City's proposal had the highest NPV of benefits under Option 2b and earned 50 out of 52 total points for this category. The two point deduction was related to Solar City's failure to include any sharing of benefits in its Proposal 2b Option. A summary of the calculated revenues and assigned points can be found below:



Developer	Option	PPA Rate	Nominal Savings	NPV Savings	Points
Solar City	2b	\$0.0570	\$1,387,500	\$960,468	50
SunEdison	4	\$0.0470	\$1,159,585	\$889,181	46
Solar City	4b	\$0.0700	\$1,159,995	\$846,893	44
Solar City	2	\$0.0590	\$1,183,069	\$819,287	43
Solar City	4	\$0.0680	\$1,078,358	\$776,644	40
NRG	2	\$0.0620	\$1,061,114	\$734,849	38
Marina	2	\$0.0650	\$989,178	\$682,512	36
NextEra	2	\$0.0690	\$939,319	\$650,773	34
SunEdison	2	\$0.0710	\$758,662	\$525,409	27
SunEdison	3	\$0.0470	\$617,765	\$471,751	25
Solar City	1	\$0.0600	\$633,399	\$437,721	23
NRG	1	\$0.0620	\$601,702	\$415,711	22
NextEra	1	\$0.0690	\$561,246	\$387,868	20
Marina	1	\$0.0725	\$447,423	\$306,192	16
SunEdison	1	\$0.0730	\$378,558	\$261,077	14

### **Avoided Capital Costs**

Under Proposal Options 3 and 4 additional financial benefits may be available to the BOE in the form of avoided capital costs associated with back-up power generation at the BOE Facility.

NextEra, NRG and Marina did not include battery back-up technology and therefore they were not awarded any points for this category.

Solar City and SunEdison’s proposals included provisions for battery back-up. During the oral interview process, the Evaluation Team evaluated the costs and benefits, both monetary and non-monetary between the proposals that included battery back-up technology.

The most critical additional benefit to the BOE in selecting a proposal with battery back-up technology is the ability to receive power from solar in the event of a grid outage. Ordinarily, when the electric grid is down all solar projects are off-line as well. This is required to protect those working on power lines to restore the electric service to customers. However, with the addition of a battery system, a solar array can safely island itself from the grid and continue to feed power to a host facility when the sun is shining. As a result the BOE can be assured it will receive additional kWh production produced by the Systems during daylight hours when the grid is down. The battery technology allows for the Systems to both continue to generate power for the BOE Facilities and recharge the battery during the day, and then utilize power stored in the battery for a limited period of time in the evening.

Thus, the benefits of installing the battery storage proposal options are twofold: 1) the BOE can continue to receive the critical load benefit of the Systems during the daylight

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hours of a grid outage, and; 2) the battery can provide electricity during the non-sunlight hours of a grid outage.

In order to evaluate the benefits, both economic and non-economic, the Evaluation Team made certain assumptions in order to quantify the benefits of a solar array with battery storage relative to the installation of a new traditional fossil fuel generator. Each Respondent was asked to provide the capacity of their proposed battery for an outage of 2.5 hours for each BOE Facility. This capacity was compared to the installation costs of a traditional fossil fuel generator of the same capacity and added to the NPV of benefits for each BOE Facility.

### **Solar City**

Through collaboration with Tesla, Solar City included a battery storage option. Solar City proposed a 30KW battery system (60 kWh) to be used for demand management and peak load shaving. Solar City's model does not rely on PJM related programs or revenue and instead is a tool used to assist host facilities in better managing demand charges through storage technology. Solar City utilizes a platform it developed called DemandLogic in conjunction with solar arrays and batteries. The battery and solar array each have their own inverter and the battery inverter is intelligently deployed to firm up the solar production profile enabling the BOE to reduce demand charges and energy costs.

The demand revenues accrued by the BOE will be shared with Solar City. For purposes of this evaluation report Gabel did not include any demand revenues in the NPV of benefit calculation for Solar City as such value could not be quantified at this time.

### **SunEdison**

SunEdison proposed a battery storage device produced and operated by Solar Grid Storage (SGS). Under this arrangement, SGS would act as subcontractor to the respective PPA provider. SunEdison would retain the responsibility of installing the Systems, with the assistance of SGS for the installation of the inverter, batteries and all control systems. The batteries will be mounted within a self-contained standard 20 ft shipping container installed near the point of connection to the buildings electrical service. SGS would also install a subpanel to handle the critical load circuitry which would be installed at a convenient location adjacent to the main panel at the BOE Facilities. It will be at the BOE's discretion to select the critical loads to interconnect into the subpanel circuit. All costs associated with the selection and interconnection of electrical equipment into the subpanel will be at the expense of SunEdison if this option is selected.

During the oral interview process SGS confirmed that the proposed battery size for SunEdison included two single PowerFactor500 units (one at High School and one at Lounsberry), which offers 88 kW of critical load support for each school. During a grid outage and non-sunlight hours, if the batteries have a full charge and the critical loads draw the maximum power, SGS indicated that the batteries can supply that load for two and a half (2.5) hours.

The SunEdison proposal would require the “Critical Building Loads” output of the inverter/battery storage systems to be connected to a subpanel at each school. The subpanel would be connected to the specified critical equipment loads within the BOE Facilities. During daylight hours the combined Systems and batteries will satisfy the critical load electrical requirements of the BOE Facilities. During non-sunlight hours, the battery will provide stored energy to operate the critical loads for period of time depending on battery state of charge and total load on the subpanel.

Calculated Avoided Capital Costs Results

Gabel used industry standard equipment and installation assumptions to determine fossil fuel generation equivalency for avoided capital costs.

For purposes of this evaluation report, the Evaluation Team has included an estimate of the total avoided cost associated with displacing specific size fossil fuel generation based on the equivalent battery size. The table below outlines the details of the batteries proposed by each Respondent and the avoided cost assumptions used in the NPV of benefits analysis.

	<b>Solar City</b>	<b>SunEdison</b>
<b>Inverter Info</b>	Princeton Power Systems GTIB-30	PowerFactor 500
<b>Critical Load (2.5 hours)</b>	24 kW	88 kW
<b>Avoided Cost per Battery</b>	\$52,594	\$102,556

It is worth noting that there are additional unquantifiable avoided costs which are not included in our analysis; however, these costs are expected to be marginal in comparison to the total capital cost offset identified above. These additional avoided costs include:

1. Fuel costs - The installation of a solar powered back-up battery system provides purchase fuel cost savings relative to a fossil fuel burning generator. The prices of gasoline, petroleum, diesel, and/or propane are volatile and often increase sharply during cold weather and power outages. Without prior knowledge of the time and length of an outage, the avoided fuel costs cannot be calculated. However, the cost impact could be significant if the outage occurs during daytime hours and continues for a long period of time.
2. Maintenance costs - Fossil fuel powered generators require operation and maintenance to assure their availability. These costs would also be avoided with the installation of a privately maintained solar powered back-up battery system.

Additional non-monetary operational benefits include:

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3. Limited fuel supply - In the aftermath of a severe storm or power outage there is limited availability of fossil fuel supply for backup generation. In the case of Superstorm Sandy, the condition of roadways and flooding prohibited the distribution of fuel. Gasoline was also difficult to acquire due to lack of functioning gas stations and the sharp increase in use of generators as back-up generation sources by homeowners and businesses.
  4. Zero emissions - There are no emissions created in the storage of solar powered battery back-up generation.
  5. Emergency power diversification - Installing a solar battery diversifies the back-up generating assets at the BOE Facility. In this case, the BOE would now have an emergency generator as well as the battery back-up system adding a level of redundancy to the facility's emergency generation.
  6. Recyclable materials - The lithium ion material used in all of the solar battery proposals is 90% recyclable.
  7. Minimal Noise Disruption - There is a significant amount of noise pollution associated with operating a fossil fuel generator. This nuisance is eliminated when using a solar powered battery back-up system.
  8. Showcase for state of the art technology - If the BOE were to select a battery storage option it will likely receive press attention for installing a "next generation" solar system. If selected and when installed, the BOE would be one of the first public entities in the State to incorporate a solar installation integrated with battery technology.

Solar City and SunEdison were awarded the maximum points for this category under Option 2 while Marina, NextEra and NRG were awarded no points.

### **Option – Sharing of Benefits**

One of the major sources of value of a solar project in New Jersey is the value of the SRECs that will be earned by the owner of the Systems. The RFP allowed for respondents to include terms for the Sharing of Benefits with the BOE; however, none of the Respondents elected to offer this option. For this reason no points were awarded to any of the five Respondents under this category.

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## 5. Technical Design/Approach

The evaluation of the technical design/approach has several criteria including:

- Design Strategy;
- Project Team Approach;
- O&M Plan and Approach; and,
- Inclusion of Battery Back-up System.

### **Design Strategy**

The design strategy in each Proposal and each Proposal Option was evaluated based on reviewing the preliminary layout, sizing and production of the Systems as well as the major System components. The following section provides an explanation of the review of the solar system layout, sizing and production. The section includes a table for each Respondent along with an overview of the system components that are utilized in each Respondent's preliminary solar design and each component's compliance with the technical specifications in the RFP contained in Appendix C.

The Vernon BOE has completed numerous energy efficiency initiatives throughout the district, and as a result the annual electric consumption at each of the evaluated BOE Facilities was reduced from the consumption data provided with the RFP documents. In cases where a proposed solar array would have produced greater than 90% of the interconnected BOE Facility's electric consumption, the system size and expected production of the solar array was reduced to equal 90%.

### **Marina Energy/RAI**

The Evaluation Team compared the output (kW) of Marina's proposed Systems with the conceptual site plan layouts that were completed as part of the RFP. The layout for the roof and ground mounted areas were consistent to the layouts provided in the RFP and were located within the areas provided for by the BOE.

The expected solar generation at the Lounsberry School in the Marina proposal was greater than 90% of the updated facility consumption, and the expected production was therefore decreased to 90% of the updated consumption.

Marina provided the PVWatts calculations for each of the Systems substantiating the expected production calculations. Below is a review of the proposal.

<b>Proposal Option</b>	<b>Total System Size: (kW)</b>	<b>Expected Total System Output: (kWh)</b>	<b>Guaranteed Total System Output: (kWh)</b>
<b>Option 1</b>	730.98	815,350	733,815
<b>Option 2</b>	1,179.57	1,389,910	1,250,919

Both the guaranteed system output and expected production rate of the proposed Systems were adjusted and are now acceptable.

The equipment specified in Marina's proposals and its compliance with the Technical Specifications contained in the RFP are as follows:

**Marina: Major System Components**

<b>System Component</b>	<b>Manufacturer</b>	<b>Compliance with Project Technical Specifications</b>
<b>PV Modules</b>	Trina TSM-PD14 310 Watt	Yes
<b>Inverters</b>	Advanced Energy 500 TX and 250 TX Central Inverters	Yes
<b>Racking System</b>	AET Rayport-B (roof array) AET Rayport-G Eco (ground array), or equal	Yes
<b>DAS</b>	DECK Monitoring	Yes

Marina confirmed that they reviewed the material list and will select from the vendors provided which will be Tier 1 materials.

Marina provided design strategies and equipment selection in compliance with the RFP and as such Marina was awarded the maximum number of points for this category.

**NextEra/Dobtol**

The Evaluation Team compared the output (kW) of NextEra’s proposed Systems with the conceptual site plan layout that was completed as part of the RFP. The layout for the roof and ground mounted areas were consistent to the layouts provided in the RFP and were located within the areas provided for by the BOE.

The expected solar generation at the Lounsberry School in the NextEra proposal was greater than 90% of the updated facility consumption, and the expected production was therefore decreased to 90% of the updated consumption.

NextEra provided the PVWatts calculations for each of the Systems substantiating the expected production calculations. Below is a review of the proposal.

<b>Proposal Option</b>	<b>Total System Size: (kW)</b>	<b>Expected Total System Output: (kWh)</b>	<b>Guaranteed Total System Output: (kWh)</b>
<b>Option 2</b>	1,271.77	1,584,048	1,425,643

Both the guaranteed system output and expected production rate of the Systems were adjusted and are now acceptable.

NextEra's proposed equipment for the proposal and compliance to specifications are as follows:

**NextEra: Major System Components**

<b>System Component</b>	<b>Manufacturer</b>	<b>Compliance with Project Technical Specifications</b>
<b>PV Modules</b>	Solar World SunModule 310 or 315 or equivalent	Yes
<b>Inverters</b>	Advanced Energy or equivalent	Yes
<b>Racking System</b>	AET Racking System	Yes
<b>DAS</b>	Draker Monitoring system	Yes

NextEra provided design strategies and equipment selection in compliance with the RFP and as such NextEra was awarded the maximum number of points for this category.

**EZEnergy/NRG**

The Evaluation Team compared the output (kW) of NRG’s proposed Systems with the conceptual site plan layout that was completed as part of the RFP. The layout for the roof and ground mounted areas were consistent to the layouts provided in the RFP and were located within the areas provided for by the BOE.

The expected solar generation at the Lounsberry School in the NRG proposal was greater than 90% of the updated facility consumption, and the expected production was therefore decreased to 90% of the updated consumption.

NRG provided the PVWatts calculations for each of the Systems substantiating the expected production calculations. Below is a review of the proposal.

<b>Proposal Option</b>	<b>Total System Size: (kW)</b>	<b>Expected Total System Output: (kWh)</b>	<b>Guaranteed Total System Output: (kWh)</b>
<b>Option 1</b>	733.00	884,886	796,397
<b>Option 2</b>	1,159.58	1,459,446	1,313,501

Both the guaranteed system output and expected production rate of the Systems were adjusted and are now acceptable.

NRG's proposed equipment for the proposal and compliance to specifications are as follows:

**NRG: Major System Components**

<b>System Component</b>	<b>Manufacturer</b>	<b>Compliance with Project Technical Specifications</b>
<b>PV Modules</b>	Solar World SunModule 280 or equivalent	Yes
<b>Inverters</b>	Solectria (500kW)	Yes
<b>Racking System</b>	Genmounts (Roof mount) AP Alternatives (Ground mount)	Yes
<b>DAS</b>	Lotus	Yes

NRG provided design strategies and equipment selection in compliance with the RFP and as such NRG was awarded the maximum number of points for this category.

**Solar City**

The Evaluation Team compared the output (kW) of Solar City’s proposed system with the conceptual site plan layout that was completed as part of the RFP. The layout for the roof and ground mounted areas were consistent to the layouts provided in the RFP and were located within the areas provided for by the BOE.

The expected solar generation at the Lounsberry School and Rolling Hills School in the Solar City proposal was greater than 90% of the updated facility consumptions, and the expected production was therefore decreased to 90% of the updated consumption at each of the facilities.

Solar City provided the PVSyst calculations for each of the Systems substantiating the expected production calculations. Below is a review of the proposal. Solar City provided a 100% guarantee without weather adjustment which was greater than the 90% guaranty that was required by the RFP. Below is a review of the proposal.

<b>Proposal Option</b>	<b>Total System Size: (kW)</b>	<b>Expected Total System Output: (kWh)</b>	<b>Guaranteed Total System Output: (kWh)</b>
<b>Option 1</b>	701.5	804,621	804,621
<b>Option 2</b>	1,175.17	1,379,180	1,379,180
<b>Option 4</b>	1,175.17	1,379,180	1,379,180
<b>Alternate Option 2</b>	1,483.05	1,752,644	1,752,644
<b>Alternate Option 4</b>	1,483.05	1,752,644	1,752,644



The guaranteed system output and expected production rate of the Systems are identical, were adjusted and are now acceptable.

Solar City's proposed equipment for the proposal and compliance to specifications are as follows:

**Solar City: Major System Components**

<b>System Component</b>	<b>Manufacturer</b>	<b>Compliance with Project Technical Specifications</b>
<b>PV Modules</b>	Canadian Solar (305 W) or Trina Solar (245-260W)	Yes
<b>Inverters</b>	Solectria (PVI 28TL) Princeton Power Systems GTIB-30	Yes
<b>Racking System</b>	ZepSolar (ZS Peak) (Roof mount) RBI (Ground mount)	Yes
<b>DAS</b>	Solar City PowerGuide	Yes

Solar City provided design strategies and equipment selection in compliance with the RFP and as such Solar City was awarded the maximum points for this category.

**SunEdison**

The Evaluation Team compared the output (kW) of SunEdison’s proposed Systems with the conceptual site plan layout that was completed as part of the RFP. The layout for the roof and ground mounted areas were consistent to the layouts provided in the RFP and were located within the areas provided for by the BOE.

The expected solar generation at the Lounsberry School in the SunEdison proposal was greater than 90% of the updated facility consumption, and the expected production was therefore decreased to 90% of the updated consumption.

SunEdison provided the PVSyst calculations for each of the Systems substantiating the expected production calculations. Below is a review of the proposal. Below is a review of the proposal.

<b>Proposal Option</b>	<b>Total System Size: (kW)</b>	<b>Expected Total System Output: (kWh)</b>	<b>Guaranteed Total System Output: (kWh)</b>
<b>Option 1</b>	599.76	776,089	698,480
<b>Option 2</b>	987.68	1,350,649	1,215,584
<b>Option 3</b>	599.76	723,500	651,150
<b>Option 4</b>	987.68	1,470,414	1,323,373

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Both the guaranteed system output and expected production rate of the Systems were adjusted and are now acceptable.

SunEdison' proposed equipment for the proposal and compliance to specifications are as follows:

**SunEdison: Major System Components**

<b>System Component</b>	<b>Manufacturer</b>	<b>Compliance with Project Technical Specifications</b>
<b>PV Modules</b>	Silvantis (340 W)	Yes
<b>Inverters</b>	Option 1 - CPS String Inverters Option 2 - PowerFactor500 & Power Factor250	Yes
<b>Racking System</b>	Panel Claw Polar Bear III (Roof Mount) Solar Flex Rack	Yes
<b>DAS</b>	SunEdison Environmental Data System (SEEDS)	Yes

SunEdison provided design strategies and equipment selection in compliance with the RFP and as such SunEdison was awarded the maximum points for this category.

**Project Team Approach**

**Marina**

Marina Energy, LLC, a wholly owned subsidiary of South Jersey Industries, would finance, own, maintain and operate the System during the 15 year term of the PPA with the BOE.

Ray Angelini Inc. (RAI), a full service electrical contracting firm under contract by Marina as the engineering, procurement and construction (EPC) contractor and project manager, would provide design, permitting, environmental compliance, construction and installation of the project. RAI self performs all of its work and has substantial resources in personnel and project equipment.

RAI did not provide a description of its firm’s approach in its RFP response, however, during the oral interviews RAI provided a presentation outlining its process including its design and fire access and safety considerations.

Marina included a conservative project schedule of approximately 12 months from PPA execution through commissioning of the system.

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The Marina team approach satisfies the requirements of the RFP, and it was awarded the maximum number of points for this category.

**NextEra/Dobtol**

NextEra provided some information in its Proposal regarding the project team approach; however, during the oral interview, NextEra provided additional clarification.

NextEra Energy Resources Acquisitions would be responsible for providing construction financing and would be the owner and operator of the System for the 15 year term of the PPA.

Dobtol Construction, LLC, under contract by NextEra as the EPC and project manager, will provide engineering, permitting, environmental compliance, construction and installation of the project.

During the oral interview Dobtol outlined its process for managing the project and insuring site safety. Dobtol would assign a project manager and foreman who would be responsible for the project and interaction with the BOE's construction administration official, Gabel Associates, as well as BOE staff. Dobtol would hold regular project updates and weekly meetings and would maintain continuous communication with the BOE, both directly and through the BOE's energy consultant. This includes, but is not limited to, identification of lay-down areas, trailers, project scheduling changes, and manpower work hours.

No formal construction schedule was provided in NextEra's Proposal, however, during the oral interview Dobtol indicated the solar installation should be completed within 4-6 months from PPA execution through system commissioning.

The NextEra team approach satisfies the requirements of the RFP, and it was awarded the maximum number of points for this category.

**NRG**

NRG Renew, a wholly owned subsidiary of NRG, would finance, own, maintain and operate the Systems during the 15 year term of the PPA with the BOE.

EZNergy is the solar developer and is responsible for the solar design and development.

Altec Building Systems, under contract by NRG as the EPC and project manager, would provide permitting, environmental compliance, construction and installation of the project.

Altec will use Microsoft Project Manager to manage the project schedule. Altec would hold regular project updates and weekly meetings and would maintain continuous communication with the BOE. This includes, but is not limited to, identification of lay-down areas, trailers, project scheduling change and manpower work hours.

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NRG did not include a project schedule in its Proposal but outlined a schedule during the oral interview of approximately 180 days from PPA execution through commissioning of the system.

The NRG team approach satisfies the requirements of the RFP, and it was awarded the maximum number of points for this category.

### **Solar City**

Solar City is a full service provider of turnkey solar solutions and would finance, own, maintain and operate the System during the 15 year term of the PPA with the BOE.

GroSolar, a solar contractor specializing in engineering and installing solar projects, would provide permitting, engineering, environmental compliance, construction and installation of the project.

Solar City provided a very comprehensive and detailed description of the firm's project design and installation process and experience covering every element of the project including design, installation subcontractor selection and management, construction means and methods, electrical interconnection and more.

Solar City included a project schedule with an anticipated completion date of 8/14/15.

The Solar City team approach satisfies the requirements of the RFP, and it was awarded the maximum number of points for this category.

### **SunEdison**

SunEdison, a large provider of clean energy solutions, would finance, own, maintain and operate the System during the 15 year term of the PPA with the BOE.

Advanced Solar Projects (ASP), a leading solar installation company, would serve as the lead contractor and project manager of the installation. It would be responsible for design, permitting, procurement, installation, commissioning, operation and maintenance of the PV System.

If the BOE selects the SunEdison Proposal inclusive of battery storage back-up generation, the SunEdison project team would include Solar Grid Storage (SGS). SGS has developed an innovative model integrating battery storage systems into solar installations. The SunEdison project team would function such that SunEdison would own and operate the inverter/battery storage system. SGS, under contract to SunEdison, would have responsibility for the operation, maintenance and performance of the inverter/battery system for the 15 year term of the PPA.

SunEdison provided a description of the firm's project design and installation process and experience including construction means and methods, safety and quality assurance and more.

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SunEdison included a project schedule with an anticipated completion date of 8/1/15.

The SunEdison team approach satisfies the requirements of the RFP, and it was awarded the maximum number of points for this category.

### **Operations and Maintenance Plan and Approach**

#### **Marina**

RAI will be the Operation and Maintenance (O&M) provider for this project. During the oral interview RAI indicated they provide 24/7 monitoring and would expect to have someone onsite immediately for an emergency response and within 24 hours of a production event. RAI is New Jersey based and would be servicing the systems from its Sewell, NJ offices and would anticipate a minimum of two service inspections per year. Marina was awarded the maximum number of points for this category.

#### **NextEra/Dobtol**

NextEra will be responsible for all operations and maintenance, but may subcontract the tasks to Dobtol. NextEra will be alerted immediately via either electronic notice through the data acquisition system, through phone calls by site staff or through its O&M provider's staff conducting inspections. During the oral interview NextEra discussed its central command center in Florida and that they attempt to fix faults in less than three days and respond to events upon notification. As such, NextEra was awarded the maximum number of points for this category.

#### **NRG**

Altec is designated to provide operations and maintenance services as a contractor for NRG. During the oral interview NRG indicated maintenance response for normal calls is within 24 hours and emergency maintenance response is within 4 hours of a call. As such, NRG was awarded the maximum number of points for this category.

#### **Solar City**

Solar City has a command center for all solar projects located in San Mateo California. The command center provides for 24 hour support. Solar City will be providing the operations and maintenance internally through its Cranbury, NJ operations center. Solar City has local maintenance teams available to service systems and will respond to events upon notification. As such, Solar City was awarded the maximum number points for this category.

#### **SunEdison**

SunEdison has an O&M team that provides 24 hour monitoring service. SunEdison's response included the O&M activities provided. In addition, during the oral interview SunEdison expanded on the capabilities of its NJ O&M team and its ability to respond quickly. SunEdison was awarded the maximum number of points for this category.

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## 6. Respondent's Experience

Each Respondent was evaluated on experience, which includes the following:

- Project Management;
- Contractor Expertise;
- Project Experience; and,
- New Jersey Experience.

Marina has assembled an experienced and qualified project team. Marina and its team member, Ray Angelini Inc., have the skills and experience needed to implement the System on schedule. Firm qualifications, project experience and references were provided for Marina and its team members.

NextEra has assembled an experienced and well qualified project team. NextEra and its team member, Dobtoll, have the skills needed to implement the System on schedule. Firm qualifications, project experience and references were provided for NextEra and its team member.

NRG has assembled an experienced and well qualified project team. NRG and its team member(s), EZEnergy and Altec Building Corporation, have the skills needed to implement the System on schedule. Firm qualifications, project experience and references were provided for NRG and its team members.

Solar City has assembled an experienced and well qualified project team. Solar City and its team member, GroSolar, have the skills needed to implement the System on schedule. Firm qualifications, project experience and references were provided for Solar City and its team members.

SunEdison has assembled an experienced and well qualified project team. SunEdison and its team member(s), Advanced Solar Products and alternate proposal team member Solar Grid Storage, have the skills needed to implement the System on schedule. Firm qualifications, project experience and references were provided for SunEdison and its team members.

However, having stated all of the above for each Respondent, the following review and evaluation is specific to each Respondent's contractor's only, as they will be responsible for all technical and construction-related activities on this project.

### **Project Management**

#### **Marina**

RAI has been in business for 41 years and has significant electrical contracting and project management experience. The firm was involved in the design and construction of the existing solar projects located on the roofs of the other schools and has been responsible for overseeing projects of similar size and complexity. During the oral

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interview RAI also provided detailed information on its project management structure and controls. As such RAI demonstrated the ability to successfully manage the project. Marina was awarded the maximum number of points for this category.

### **NextEra/Dobtol**

Dobtol provided little information in its RFP response with respect to its project management process, however, during the oral interview Dobtol indicated that they may perform project management tasks in house or will subcontract work to a third party. However, in either case a project manager from Dobtol would be onsite to manage and oversee the project. Dobtol also provided a detailed description of how it would manage the project and its past experiences. As such Dobtol demonstrated the ability to successfully manage the project. NextEra was awarded the maximum number of points for this category.

### **NRG**

NRG and EZNergy will be overseeing the development of the project. Altec demonstrated the ability to successfully manage the project through the involvement of well-qualified management, supervisory, and key staff. Altec indicated Robert Smith will be the project manager for the Vernon project. Robert Smith managed the Tom's River BOE projects, and has over 8 years experience in managing similar projects. He has managed the installation of over 70 MW of solar development in the State. NRG was awarded the maximum number of points for this category.

### **Solar City**

Solar City, working in conjunction with its contractor, GroSolar, will manage the solar project. Together they will perform all activities directly related to the development and installation of the project. Solar City provided a detailed and sound project management approach and related experience in its RFP response and at the oral interview. Solar City was awarded the maximum number of points for this category.

### **SunEdison**

SunEdison provided a description of its project management plan through working with Advanced Solar Products. It also provided sound construction means and methods for managing the project along with quality and safety assurance procedures. ASP indicated that the project will be managed in the field by an ASP Project Manager. All administrative and back office work will be completed by Pete Sudano. During the oral interview ASP demonstrated a well-thought and concise project management plan, with the ability to successfully manage the project through the involvement of well qualified management, supervisory, and key staff. SunEdison was awarded the maximum number of points for this category.

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## **Contractor Experience**

### **Marina/RAI**

RAI is a full service electrical contracting firm and has significant experience in the design and installation of solar systems for commercial, private and public sectors. RAI provided several project references in the Proposal regarding the firm's project management and electrical contracting capabilities of its project team. Marina was awarded the maximum number points for this category.

### **NextEra**

Dobtol specializes in solar system integration for commercial, private and public sectors. Dobtol provided limited information in its Proposal regarding the electrical engineering and contractor capabilities of its project team. However, Dobtol has an extensive reference list, and has completed many comparable projects in the State. NextEra was awarded the maximum number of points for this category.

### **NRG**

Altec Building Systems and Altec Electrical are Union contractors with over three years of solar installation experience and have been active since 1992. They are DPMC classified in electrical, solar and construction renovation. NRG was awarded the maximum number of points for this category.

### **Solar City**

GroSolar is a registered and licensed New Jersey company specializing in the engineering and installation of solar projects. GroSolar has been working as a contractor with Solar City for some time and has partnered together on several East coast projects. Together, they presented an extensive list of project references. Solar City was awarded the maximum number of points for this category.

### **SunEdison**

SunEdison will be the prime contractor, ultimately responsible for all facets of project design, construction, financing, operations and maintenance. ASP, a leading company in the field of solar energy and related sustainable technologies with over 10 years of experience, is based out of Flemington, New Jersey. ASP has an in-house project team of New Jersey licensed electrical contractors and the support of experienced subcontractors to implement the Systems.

ASP has completed or contracted for over 250 solar systems totaling over 50 MW of solar installations throughout the East Coast. SunEdison selected Advanced Solar Products as its contractor for this project. SunEdison was awarded the maximum number of points for this category.



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## **Project Experience**

### **Marina**

Marina Energy and RAI provided a comprehensive list of project references completed. The following is a partial list of project references for each:

#### Marina

- FedEx Warehouse Newark Airport (Newark, NJ)
- Pleasantville HS and Elementary Schools (Pleasantville, NJ)
- Lower Cape May Regional School (Lower Cape May, NJ)
- Gloucester Twp Schools (Gloucester, NJ)
- Atlantic Cape Community College (Mays Landing and Cape May, NJ)
- Gloucester County Institute of Technology (Gloucester, NJ)

#### RAI

- Veterans Affairs Center (Philadelphia, PA)
- JE Berkowitz Glass (Pedricktown, NJ)
- Konrad Beer Distributors (Deptford, NJ)
- Evesham Board of Education (Evesham, NJ)
- Brick Board of Education (Brick, NJ)
- Ocean City Municipal Project (Ocean City, NJ)
- Wayne Board of Education (Wayne, NJ)

Marina/RAI demonstrated extensive project experience with respect to similar types of projects, number of projects and years of experience. Marina received the maximum number of points for this category.

### **NextEra**

NextEra provided a comprehensive list of several project references completed nationally which included the following:

- Macy's
- Campbell's Soup
- Central Regional School District
- Sacramento Municipal Utility District
- Portland General Electric
- BMW
- Moravian Academy
- Gettysburg College
- Big Y
- University of Maryland Medical System
- Crane Schools
- County of Monmouth

NextEra and Dobtcol completed the following NJ based projects together:

- 
- Macys (Multiple Stores): 1.95MW
  - Grinnell Enterprises: 789kW
  - Central Regional School District: 1.5MW
  - Monmouth County (Multiple Sites): 1.59 MW
  - Union Beach Memorial School: 501 kW

Dobtol/NextEra demonstrated extensive project experience with respect to similar types of projects, number of projects and years of experience. NextEra received the maximum number of points for this category.

### **NRG**

NRG Renew and NRG Yield have more than 1200 MW of utility and commercial scale solar projects in operation or under construction. Following is a partial list of project references:

- Burlington Medical Center, Burlington, NJ
- MetLife Stadium, East Rutherford, NJ
- Payson Arizona School District
- Lincoln Financial Field, Philadelphia, PA
- MGM Mandalay Bay, Las Vegas, NV
- Religions Institution, Tabernacle, NJ

EZNERGY's solar installation experience includes:

- Township of Cherry Hill, New Jersey – 100 KW
- Barringer High School, Newark, New Jersey – 500 KW
- Park Avenue School, Newark, New Jersey – 500 KW
- Toms River Schools, Toms River, New Jersey – 5 MW
- Teaneck Board of Education, Teaneck, New Jersey – 800 KW
- Jackson Municipal Authority, Jackson, New Jersey – 500 KW
- North Warren BOE, Blairstown, NJ – 900 KW

Altec's solar installation experience includes:

- NJ Homeland Security Center, Lawrenceville, NJ
- Tom's River Intermediate School, Tom's River, NJ
- Artistic Tile, Secaucus NJ

NRG/EZNergy/Altec demonstrated extensive project experience with respect to similar types of projects, number of projects and years of experience. NRG received the maximum number of points for this category.

### **Solar City**

As of June 2014 Solar City has deployed a cumulative 756 MW of PV systems for 140,000 customers including more than 400 schools. Solar City provided a list of several project references completed nationally which included the following:

- 
- BJ's Wholesale (New Jersey)
  - Millbrook School (Millbrook, NY)
  - SUNY Cortland College (Cortland, NY)
  - Onondaga County (Clay NY)
  - City of New Britain (New Britain, CT)
  - Queen Anne's County Board of Education (Grasonville, MD)

GroSolar's solar installation experience includes the following partial list:

- Clean Harbors Environmental Services, Bridgeport, NJ
- Worcester State College, Worcester, MA
- Burlington Schools, Burlington, VT

Solar City/GroSolar demonstrated extensive project experience with respect to similar types of projects, number of projects and years of experience. Solar City received the maximum number of points for this category.

### **SunEdison**

In 2013 alone SunEdison completed 226.9 MW in new Projects. In New Jersey SunEdison has over 190 PV solar projects totaling 24.9 MWdc. SunEdison provided a list of several project references completed nationally which included the following New Jersey sites:

- Hopatcong Board of Education
- AT&T
- Bloomingdales, Inc.
- Department of Labor
- Lord and Taylor
- Whole Foods
- PSE&G

ASP has been involved with the installation of over 250 solar PV systems for utility, commercial, military, municipal, agricultural and residential clients. ASP has extensive experience with large, ground-mounted arrays, and has recently completed the largest privately-owned, net metered solar project in the western hemisphere totaling 14.1 MW located in East Windsor, New Jersey. ASP provided a list of projects and credible references associated with these projects as follows:

- Fort Dix Headquarters and Warehouses (Phase 1): 700 KW - \$4,000,000
- Prestige Auto Group: 238 KW - \$997,00
- Kooltronic Solar Canopy: 306 KW - \$1,600,000
- McGraw-Hill: 14 MW- \$54 million

SunEdison demonstrated extensive project experience with respect to similar types of projects, number of projects and years of experience. SunEdison received the maximum number of points for this category.

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## **New Jersey Experience**

### **Marina**

As outlined above, Marina and RAI have significant New Jersey experiences, therefore Marina received the maximum number of points for this category based on the team's considerable New Jersey experience.

### **NextEra**

As outlined above, NextEra and Dobtoll have sufficient New Jersey experiences, therefore NextEra received the maximum number of points for this category based on the team's significant New Jersey experience.

### **NRG**

As outlined above, NRG, EZNergy and Altec have significant New Jersey experiences, therefore NRG received the maximum number of points for this category based on the team's considerable New Jersey experience.

### **Solar City**

As outlined above, Solar City and GroSolar have sufficient New Jersey experiences, therefore Solar City received the maximum number of points for this category based on the team's significant New Jersey experience.

### **SunEdison**

As outlined above, SunEdison and ASP have significant New Jersey experiences, therefore SunEdison received the maximum number of points for this category based on the team's considerable New Jersey experience.

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## 7. Financial Background

### **Financial Capability/Strength of Respondent**

The financial capability of the Proposers should be reviewed in the context of two risks to the BOE. The first risk is the ability for the Proposer to secure adequate financing to invest in the project.

The second risk to the BOE is the financial ability for the Proposer to operate and maintain the Systems over the life of the project. The ability to do so requires an adequate revenue stream through electricity and SREC revenues, i.e. the on-going electricity and SREC revenues must be sufficient to fund ongoing operation and maintenance costs over the term.

The financial statements provided from the Proposers are for the parent company and do not provide a complete indication of the financial strength of the contracting entity for each Proposer since the contracting entity for each Proposer will be limited liability corporations (LLC)/special purpose entities (SPE) established for the purposes of the solar project. As such, the financial statements do not provide sufficient evidence to confirm overall financial wherewithal.

However, it is important to note that operating risk is mitigated by the nature of the PPA and ownership structure involved in this transaction. The BOE will not invest its own capital in the project, instead the project will be developed through the use of private investor capital. As such, the BOE has limited exposure in the event that the PPA provider defaults. If so, the financier will either take over the project and/or restructure the debt - and this will have little impact to the BOE since the investors, not the BOE, will bear this cost and the project will continue to operate. In the unlikely event the financier were to abandon the project the BOE would be left with a fully functional system capable of producing SRECs and avoided retail electricity benefits at no cost to the BOE. Under this scenario the BOE may be obligated to maintain the system, however the benefits associated with full electric retail savings and SREC revenue should outweigh any such maintenance costs.

Notwithstanding the above, for background, the following is a short summary of the financial strength of each Respondent based on the information provided.

#### **Marina Energy**

Marina is a wholly owned subsidiary of one of New Jersey's largest energy holding companies, South Jersey Industries. South Jersey Industries is a \$1.8 billion energy holding company. Marina provided South Jersey Industries Form 10-K for 2013.

Marina has provided sufficient financial information and an adequate finance package. Marina expects to finance this project on balance sheet however it also has access

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through other financing sources. Marina was awarded the maximum number of points for this category.

### **NextEra**

NextEra Energy is a publicly traded (NYSE:NEE) fortune 200 corporation with over \$33.5 billion market capitalization, \$64 billion in total assets and 42,179 MW in operation. NextEra Energy is the largest owner and operator of renewable energy projects in the country. NextEra Energy Resources is a subsidiary of NextEra Energy and was established under its current name in 2009. NextEra Energy Resources has assets in 24 states and Canada and 18,122 MW in operation. NextEra Energy's Moody's credit rating is Baa1.

NextEra has provided sufficient financial information and an adequate finance package. Next Era expects to finance this project on balance sheet, however, it also has access to other financing sources. NextEra was awarded the maximum number of points for this category.

### **NRG**

NRG is publically traded (NYSE:NRG), and is number 244 on the Fortune 500 list with a credit rating of BB- from Standard and Poor's and Ba3 from Moody's.

NRG has provided sufficient financial information and an adequate finance package. NRG expects to finance this project either internally or through its Yieldco. NRG was awarded the maximum number of points for this category.

### **Solar City**

Solar City is a large publicly traded corporation (NASDAQ:SCTY), and provided audited financial statements for 2013. In reviewing the company's financial statements the Evaluation Team expressed concerns over the Solar City's annual financial losses. To address these concerns Solar City offered the following explanation:

*"Through our core non-prepay PPA/lease product, Solar City generates consistent annual revenue/cash flow per customer installation from which we expect to generate very healthy IRRs over the 30 year life of the system.*

*However, it is challenging to transparently demonstrate these cash flow/IRR characteristics in our GAAP income statements and cash flow statements due to both (a) the timing of GAAP revenue/cost recognition and (2) the mismatch in the timing of investing cash outflows vs. customer/operating cash inflows.*

*Due to the nature of solar investment, almost all of the cash expenditures for an individual customer installation are incurred upfront.....both (a) the capex as well as (b) the upfront development expenses. These "expenses" effectively represent "investment" that yields a high EBITDA revenue stream from the customer extending up to 20-30 years.*

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*Thus, most cash expenditures are front loaded, whereas the corresponding benefit is a long-tail revenue stream that extends for two to three decades. With (1) revenue recognized as our installations produce and deliver electricity over their 30 year life, (2) Cost of Goods Solar effectively the capitalized variable cost of the system largely amortized over the 30 year life of the system, but (3) upfront SG&A development costs all expensed upfront, we tend to book upfront operating losses particularly during periods of high growth.*

*Intuitively, it is critical to understand while this translates into GAAP losses in our current income statement, inherently the business is not "unprofitable" over the life of the system. The best way to understand this is to recognize what would happen if SolarCity stopped tomorrow and all new development ceased. In that circumstance, capital expenditures would effectively fall to zero. And all upfront development expenses (sales costs, finance origination, etc.) would cease. And we would be left with our booked/deployed solar assets generating steady, revenue, cash flow and in turn profitability for the next 20-30 years.*

*That said, while this state of positive profits and cash flow obviously is attractive, it also translates into no growth. And for the time being, our business is hyper focused on growing our customer and MW installed (and thus NPV) base as quickly as possible. As long as we are growing at this pace, given the GAAP accounting dynamics discussed above, we are likely to continue generating GAAP losses. And ultimately, the turning point towards steady profitability is largely a function of when our growth rates slow enough that the growth in development expenses is more than offset by continued growth in our contracted revenue base, which very possibly could not occur for many, many years.*

*In conclusion, we are likely to book continued GAAP operating losses for the foreseeable future, but it is driven by growth investment. And if/when our growth investment ceases or slows, we have a highly visible outlook for revenue/profitability for 20-30 years thereafter."*

As of August 2014, Solar City has raised 37 financing funds that can finance more than \$4 billion in solar PV projects through large credible sources. Solar City also has funding equivalent to 155 MW of un-deployed tax equity and a \$200 million revolving line of credit. Based on the above as well as information provided in the RFP response and during oral interviews Solar City has provided sufficient financial information and an adequate finance package. Solar City provided a financial commitment letter and expects to finance this project via established financing sources has outlined above. While the revenue loss explanation was provided and assisted in addressing some concerns the overall model carries with it continuing risk inherent in the company's "bet" on the solar industry nationally. However, in terms of capital available for project development and capitalization, the company demonstrated available sources of funding and adequate cash flow to support continuing operations over the life of the PPA. Based on these considerations, Solar City was deducted two points for this category.

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## **SunEdison**

SunEdison is a publically traded company with over 2.4 gigawatts of solar systems in operation across 16 countries and 22 US states. SunEdison provided its Form 10-K.

SunEdison has raised more than \$7.5 billion in project funding including \$1.5 billion in 2013. SunEdison recently released its newest financing vehicle, SunEdison Yieldco.

SunEdison has provided sufficient financial information and an adequate finance package. During the oral interviews SunEdison discussed financing the project through its recently formed Yieldco, which is a publically traded fund. The SunEdison model is similar to the Solar City model in that the company is showing an annual loss over the past 3 years however it appears to be for similar reasons as to those outlined by Solar City. As such Sun Edison was deducted two points for this category.



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## 8. Oral Interview Evaluation

Each Respondent was evaluated with respect to their presentation and answers to questions asked during the interview. This included an evaluation of their presentation, explanation of key factors and understanding of financial factors.

### **Marina Oral Interview Summary:**

Unfortunately Marina was not able to take part in the oral interview however, RAI was able to participate. RAI provided a presentation in advance of the interview and did a satisfactory job during its presentation, was able to explain key issues, and demonstrated an understanding of financial issues.

1. RAI confirmed on behalf of Marina that it would prefer to use its own PPA but did not think that the PPA provided in the RFP included any fatal flaws and that the material terms and conditions would be incorporated into Marina's form PPA.
2. Marina confirmed the 90% performance guarantee was acceptable.
3. Marina confirmed the pricing included the Project Development Costs and the special site conditions costs outlined in the RFP.
4. Marina confirmed its proposal would not be contingent on securing financing and that financing is currently in place. Marina will finance the project on balance sheet.
5. Marina discussed its process for monetization of SRECs and talked about its SREC trading floor in Hammonton, NJ.
6. Marina confirmed that decreasing the system size at Lounsberry to insure the solar system does not exceed the load of the school would not be an issue and would not have an impact on the PPA rate.
7. Marina confirmed the roof mounted racking system would not impede roof drainage and all existing roof warranties would remain intact.
8. Marina confirmed it only uses Tier 1 products on its installations.
9. Marina confirmed an educational component and weather station would be provided to the BOE and the BOE would have a wall mounted display at each school. Marina discussed working with the BOE's director of curriculum to establish an educational component.

### **NextEra Oral Interview Summary:**

NextEra did a satisfactory job during its presentation, was able to explain key issues, and demonstrated an understanding of financial issues.

The following items were also clarified during the oral interview:

1. NextEra submitted a sample PPA as part of its proposal. However, NextEra confirmed that it does not have any material changes to the PPA provided in the RFP and would work with the BOE to incorporate all material terms and conditions contained in the RFP into its sample PPA.

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2. Dobtolt confirmed it was in receipt of Addendum 2.
  3. Dobtolt confirmed the pricing was the same for Options 1 and 2.
  4. NextEra confirmed that its proposal would not be contingent on securing financing. NextEra will finance the project on balance sheet.
  5. NextEra confirmed the 90% performance guarantee was acceptable.
  6. NextEra confirmed the pricing included the project development costs and the special site conditions costs outlined in the RFP.
  7. NextEra confirmed that decreasing the system size at Lounsberry to insure the solar system does not exceed the load of the school would not be an issue and would not have an impact on the PPA rate.
  8. NextEra confirmed the roof mounted racking system would not impede roof drainage and all existing roof warranties would remain intact.
  9. NextEra discussed that they feel the SREC market is fairly valued and pretty balanced with current levels facilitating building solar. As stated earlier NextEra Energy is an electric supplier with a renewable portfolio obligation, it has internal requirements for SRECs and therefore has the internal appetite for SRECs. It would probably look to a 3 year contract but would compare to market conditions and forecasting to determine best approach for SREC monetization.
  10. Dobtolt provided a 4-6 month timeline for construction and commissioning of the Systems.
  11. NextEra confirmed an educational component and weather station would be provided to the BOE and the BOE would have discretion on selection of free standing or wall mounted display. NextEra discussed coming in to give presentations to the students.

### **NRG Oral Interview Summary:**

NRG did a good job during its presentation, was able to explain key issues, and demonstrated an understanding of financial issues.

1. NRG confirmed that the draft PPA provided did not include any fatal flaws and that the material terms and conditions would be incorporated into NRG's form PPA.
2. NRG confirmed its proposal would not be contingent on securing financing and that financing is currently in place. NRG will finance the project either on balance sheet or through its Yieldco.
3. NRG confirmed the pricing included the project development costs and the special site condition costs outlined in the RFP.
4. NRG discussed its process for monetization of SRECs and its solar SREC Investment Strategy. NRG talked about its merchant view of the SREC market discussed its SREC trading floor and the various strategies it uses to manage its portfolio.
5. NRG confirmed that decreasing the system size at Lounsberry to insure the solar system does not exceed the load of the school would not be an issue and would not have an impact on the PPA rate.
6. NRG confirmed the roof mounted racking system would not impede roof drainage and all existing roof warranties would remain intact. NRG also stated

- 
- they received a price from the roofing manufacturer of \$40,000 for the preparation work required for the roof.
7. NRG confirmed an educational component and weather station would be provided to the BOE and the BOE would have discretion on selection of free standing or wall mounted display. NRG discussed several ideas for an educational curriculum including presentations of the solar system to the schools, field trips, future job information, on-line solar course, sample curriculums and online solar materials and kits.

### **Solar City Oral Interview Summary:**

Solar City did a good job during its presentation, was able to explain key issues, and demonstrated an understanding of financial issues.

1. Solar City confirmed that the mandatory terms and conditions would be incorporated into Solar City's form PPA and provided several comments to the BOE's Special Energy Counsel concerning PPA material terms and conditions provided in the RFP:
2. Solar City confirmed that the reimbursement rate established as part of the 100% performance guarantee was capped at \$.05kWh.
3. Solar City discussed how it developed its proposal for including the Rolling Hills school based on the current energy price and the ability to drive down the PPA rate by adding the school to generate additional savings. Very creative strategy.
4. Solar City confirmed its proposal would not be contingent on securing financing and that financing is currently in place. Solar City will finance the project through one of a series of open funds raised specifically to finance solar projects. Solar City plans to fund the project on balance sheet through construction completion.
5. Solar City confirmed the pricing included the project development costs and the special site condition costs outlined in the RFP. Solar City confirmed pricing included some tree removal costs as may be required based on the location of the array.
6. Solar City discussed its process for monetization of SRECs. Solar City talked about its highly proprietary model which actually looks to go out and hedge SRECs through its SREC trading group.
7. Solar City confirmed that decreasing the system size at Lounsberry and Rolling Hills to insure the solar system does not exceed the load of the school would not be an issue and would not have an impact on the PPA rate.
8. Solar City confirmed the roof mounted racking system would not impede roof drainage and all existing roof warranties would remain intact.
9. Discussed Power Factor and according to Solar City the solar system should not have an impact on power factor. The Solar City engineer provided a detailed explanation of real power from solar versus reactive at the site.
10. Solar City discussed the 30kW battery proposed and its capability. Solar City confirmed it would own the battery (10 year contract scenarios) and use it strictly for demand management strategies and the ability to keep solar system operational during grid outage scenarios. Solar City also confirmed the battery would have a marginal affect on the production of the solar system and would

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not impact performance guarantees. The batteries would be tied into the same emergency circuit panels as the existing generators and did not include adding any additional circuits or rewiring work.

11. Solar City confirmed an educational component and weather station would be provided to the BOE and the BOE would have discretion on selection of free standing or wall mounted display. Solar City discussed its proprietary Powerguide monitoring software monitor system as well as the proprietary curriculum developed by the National Energy Education Development (NEED).

### **SunEdison Oral Interview Summary:**

SunEdison did a good job during its presentation, was able to explain key issues, and demonstrated an understanding of financial issues.

The following items were also clarified during the oral interview:

1. SunEdison would prefer to use its own form PPA however SunEdison confirmed that it does not have any material changes to the PPA provided in the RFP and would work with the BOE to incorporate all material terms and conditions contained in the RFP into its PPA.
2. SunEdison confirmed the 90% performance guarantee was acceptable.
3. SunEdison confirmed that its proposal would not be contingent on securing financing. SunEdison will provide permanent financing for the project through its recently formed Yieldco, which is a publically traded investment fund. SunEdison will provide construction finance through a revolving construction loan through Deutsche Bank.
4. SunEdison discussed its view of the SREC market and that it has stabilized. SunEdison will typically look to hedge SREC risk for its investors through strip or long term contracts that make sense.
5. SunEdison confirmed the pricing included the project development costs and the special site condition costs outlined in the RFP.
6. SunEdison spent considerable time discussing its floating rate structure outlined under Options 3 and 4. The floating rate structure involved significantly reducing the PPA'S "effective rate" through revenue offsets shared by SunEdison through PJM program revenues. SunEdison later confirmed that the rate was backstopped through an insurance policy and thus was the proposed PPA rate to be used in the net benefits analysis.
7. SunEdison confirmed the roof mounted racking system would not impede roof drainage and all existing roof warranties would remain intact.
8. Discussed Power Factor and according to ASP the solar system should not have an impact on power factor.
9. SunEdison confirmed they will be using Solar Grid Storage for the battery option and SunEdison will own the battery. SunEdison also confirmed that the batteries would be tied into the same emergency circuit panels as the existing generators and did not include adding any additional circuits or rewiring work. SGS gave detailed explanations on the battery system and its full capability as well as the battery's ability to explore demand management strategies with the battery through incorporation of existing software (at a later time). SunEdison also

- 
- confirmed the battery would have a marginal affect on the production of the solar system and would not impact performance guarantees.
10. SunEdison confirmed an educational component and weather station would be provided to the BOE and the BOE would have discretion on selection of free standing or wall mounted display. SunEdison discussed its educational component as well s a community benefit based program which provides for \$1,000 cash to any local resident who installs solar and finances though SunEdison.

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## 9. Recommendation – Successful Respondent

In recommending that a contract be awarded to Solar City as the Successful Respondent under its Option 2b Proposal, the Evaluation Team reviewed Solar City's proposal for legal compliance, as well as technical design, experience, qualifications and financial strength requirements set forth by the RFP. The Evaluation Team also conducted an interview allowing all five Respondents to present and clarify its Proposal.

Solar City's Option 2b Proposal scored the highest in the Evaluation Matrix. Proposal Option 2b scored 94 points out of a possible 100 points on the Evaluation Matrix. SunEdison's Proposal Option 4 scored 92 points out of a possible 100 points on the Evaluation Matrix. The Evaluation Matrix is shown in **Attachment 5**.

Solar City's Option 2b Proposal yields a cumulative NPV of economic benefits of more than \$960,000 over the term of the 15 year PPA. The Evaluation Team believes that Solar City has assembled a quality project team with the experience and technical capability to work as a partner with the BOE to successfully implement its solar initiative.

Accordingly, the Evaluation Team recommends that Vernon award the solar project to Solar City under its proposal Option 2b. Attachments 1-5 provide detailed economic analyses supporting the recommendation.

**Attachment 1** summarizes Respondent's proposals, including system sizes, annual generation (first year) and PPA pricing (first year PPA rate and annual escalation). Additionally, **Attachment 1** summarizes cost savings of the proposals. The energy cost savings shown in **Attachment 1** reflect both nominal dollar and net present value dollar savings. On a net present value basis, Solar City's proposal Option 2b offers the greatest level of total benefits for the BOE.

**Attachment 2** summarizes electricity cost savings based on Solar City's proposal Option 2b.

**Attachment 3** summarizes the size of the Systems and their respective production of Solar City's proposal Option 2b, and includes the percentage of total displaced electricity.

**Attachment 4** is a sensitivity analyses around changes in the escalation of the retail electric rates. The sensitivity analyses was completed to illustrate to the BOE the impact of a range of retail electricity escalation rates (from 0 to 6%) on the level of estimated savings provided by Solar City's proposals Option 2b. The benefits are positive over a wide range of retail electricity escalation rates.

# Attachment 1

## Solar Proposal Summary

### Vernon Board of Education - Solar RFP Evaluation Developer Savings Comparison

Developer	Option	PPA Rate	Nominal Savings	NPV Savings
Marina	1	\$0.0725	\$447,423	\$306,192
	2	\$0.0650	\$989,178	\$682,512
NextEra	1	\$0.0690	\$561,246	\$387,868
	2	\$0.0690	\$939,319	\$650,773
NRG	1	\$0.0620	\$601,702	\$415,711
	2	\$0.0620	\$1,061,114	\$734,849
Solar City	1	\$0.0600	\$633,399	\$437,721
	2	\$0.0590	\$1,183,069	\$819,287
	4	\$0.0680	\$1,078,358	\$776,644
	2b	\$0.0570	\$1,387,500	\$960,468
	4b	\$0.0700	\$1,159,995	\$846,893
SunEdison	1	\$0.0730	\$378,558	\$261,077
	2	\$0.0710	\$758,662	\$525,409
	3	\$0.0470	\$617,765	\$471,751
	4	\$0.0470	\$1,159,585	\$889,181

\*Figures above are inclusive of avoided capital costs for battery storage options where applicable.

# Attachment 2

## Forecasted Energy Cost Savings

Vernon Board of Education - Solar RFP Evaluation  
 Forecasted Energy Cost Savings  
 Solar City - Option 2b

Facility	System Size (kW)	Guaranteed Production (kWh)	Solar Offset (%)	First Year Energy Savings (\$)	Average Energy Annual Savings (\$)	Nominal Energy Savings (\$)	NPV of Energy Savings (\$)	NPV with Avoided Capital Cost (\$)
High School	701.5	804,620	26.5%	\$34,221	\$44,948	\$674,217	\$466,469	\$466,469
Lounsberry	473.7	574,560	90.0%	\$26,486	\$37,033	\$555,496	\$385,669	\$385,669
Rolling Hills	307.9	373,464	90.0%	\$6,295	\$10,519	\$157,787	\$108,329	\$108,329



# Attachment 3

## Solar Statistics

### Vernon Board of Education - Solar RFP Evaluation Bid Overview - Solar Statistics

Developer	Option	Facility	PPA Rate	PPA Esc.	Facility Consumption	System Size	Expected Solar Production	Guaranteed Solar Production	% Solar Production
Solar City	2b	High School	\$0.0570	2.20%	3,031,147	701.50	804,620	804,620	26.5%
		Lounsberry	\$0.0570	2.20%	638,400	473.67	574,560	574,560	90.0%
		Rolling Hills	\$0.0570	2.20%	414,960	307.88	373,464	373,464	90.0%

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# Attachment 4

## Savings Summary Sensitivity Analysis

### Vernon Board of Education - Solar RFP Evaluation Developer Savings Comparison - Sensitivity Analysis

Developer	Option	PPA Rate	Nominal Savings	NPV Savings
Solar City	2b	\$0.0570	\$1,387,500	\$960,468
Solar City - 0%	2b	\$0.0570	\$873,205	\$636,802
Solar City - 6%	2b	\$0.0570	\$2,136,898	\$1,422,874

\*The figures above are based off the base case analysis, as well as a high and low case sensitivity in which electric commodity prices are assumed to escalate at 0% and 6% over the course of the PPA period. Net Present Value is determined based upon an assumed 5.00% discount rate.

# Attachment 5 Proposal Evaluation Matrix

## Attachment 5 Vernon Township Board of Education - Solar RFP Proposal Evaluation Matrix

Category			Marina				NextEra				NRG				Solar City				SunEdison						
Category	Evaluation Factor	WEIGHTING	Opt 1	Opt 2	Opt 3	Opt 4	Opt 1	Opt 2	Opt 3	Opt 4	Opt 1	Opt 2	Opt 3	Opt 4	Opt 1	Opt 2	Opt 3	Opt 4	Opt 2b	Opt 4b	Opt 1	Opt 2	Opt 3	Opt 4	
Financial Benefits (52)	NPV of Benefits <sup>1</sup>	50	16	36			20	34			22	38			23	43			40	50	44	14	27	25	46
	Option - Sharing of Benefits	2	0	0			0	0			0	0			0	0			0	0	0	0	0	0	0
Technical Design / Approach (10)	Design Strategy	3	3	3			3	3			3	3			3	3			3	3	3	3	3	3	3
	Project Team Approach	3	3	3			3	3			3	3			3	3			3	3	3	3	3	3	3
	O&M Plan and Approach	2	2	2			2	2			2	2			2	2			2	2	2	2	2	2	2
	Inclusion of a Battery Back-Up System	2	0	0	No Bid	No Bid	0	0	No Bid	No Bid	0	0	No Bid	No Bid	0	0	No Bid	No Bid	0	0	2	0	0	2	2
Proposer Experience (13)	Project Management	3	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	3	3	3	3	3
	Contractor Expertise	3	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	3	3	3	3	3
	Project Experience	4	4	4	No Bid	No Bid	4	4	No Bid	No Bid	4	4	No Bid	No Bid	4	4	No Bid	No Bid	4	4	4	4	4	4	4
	New Jersey Experience	3	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	3	3	3	3	3
Financial Strength (15)	Financial Capability / Strength of Provider/Financing source	15	15	15			15	15			15	15			13	13			13	13	13	13	13	13	13
<b>TOTAL PHASE II</b>		<b>90</b>	<b>52</b>	<b>72</b>			<b>56</b>	<b>70</b>			<b>58</b>	<b>74</b>			<b>57</b>	<b>77</b>			<b>76</b>	<b>84</b>	<b>80</b>	<b>48</b>	<b>61</b>	<b>61</b>	<b>82</b>

<sup>1</sup> NPV includes avoided capital cost for battery storage, if applicable.

Category			Marina				NextEra				NRG				Solar City				SunEdison						
Category	Evaluation Factor	WEIGHTING	Opt 1	Opt 2	Opt 3	Opt 4	Opt 1	Opt 2	Opt 3	Opt 4	Opt 1	Opt 2	Opt 3	Opt 4	Opt 1	Opt 2	Opt 3	Opt 4	Opt 2b	Opt 4b	Opt 1	Opt 2	Opt 3	Opt 4	
Oral Interview Evaluation (10)	Presentation	2	2	2	No Bid	No Bid	2	2	No Bid	No Bid	2	2	No Bid	No Bid	2	2	No Bid	No Bid	2	2	2	2	2	2	
	Explanation Key Factors	3	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	No Bid	No Bid	3	3	3	3	3	3	
	Understanding Financial Factors / SREC Market	5	5	5	No Bid	No Bid	5	5	No Bid	No Bid	5	5	No Bid	No Bid	5	5	No Bid	No Bid	5	5	5	5	5	5	
<b>TOTAL PHASE II</b>		<b>10</b>	<b>10</b>	<b>10</b>			<b>10</b>	<b>10</b>			<b>10</b>	<b>10</b>			<b>10</b>	<b>10</b>			<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	
<b>Overall Evaluation</b>																									
<b>TOTAL PHASE II and III</b>		<b>100</b>	<b>62</b>	<b>82</b>			<b>66</b>	<b>80</b>			<b>68</b>	<b>84</b>			<b>67</b>	<b>87</b>			<b>86</b>	<b>94</b>	<b>90</b>	<b>58</b>	<b>71</b>	<b>71</b>	<b>92</b>