Renewable Energy Incentive Program

Guidebook

January 2009

Version 1.0

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Glossary of Abbreviations

The following acronyms are used frequently in this document; any agency referenced to is a New Jersey agency unless otherwise specified:

- "AC": Alternating Current
- "BPU": The New Jersey Board of Public Utilities
- "DC": Direct Current
- "DEP": Department of Environmental Protection
- "EPBB": Expected Performance Based Buy-Down
- "HIC": Home Improvement Contractor
- "kW": Kilowatts
- "kWh": Kilowatt Hours
- "MW": Megawatt
- "NJCEP": New Jersey's Clean Energy Program
- "QA"; Quality Assurance
- "QC": Quality Control
- "REIP": Renewable Energy Incentive Program
- "RPS": Renewable Portfolio Standard
- "SBC": Societal Benefits Charge
- "SREC": Solar Renewable Energy Certificate

This document frequently refers to web pages and materials contained in the New Jersey Clean Energy website, which is located at http://www.NJCleanEnergy.com.

Overview of the Renewable Energy Incentive Program

Purpose

New Jersey's Clean Energy Program, administered through the Office of Clean Energy, is a legislatively mandated initiative of the New Jersey Board of Public Utilities which provides education, information, and financial incentives for renewable energy systems and energy efficiency measures. The statewide program provides more than $180 million each year toward technologies that save electricity and natural gas and increase the amount of electricity produced by clean renewable resources. These funds are made available through a suite of initiatives approved by the New Jersey Board of Public Utilities and managed by the Office of Clean Energy, the New Jersey Economic Development Authority, the New Jersey Commission on Science and Technology, and contractors engaged by the Board referred to as "Market Managers."

This Program Guidebook contains the processes and procedures by which the Renewable Energy Incentive Program (REIP) is administered by the Renewable Energy Market Managers. The processes and procedures in this document are open to periodic revision, subject to review and approval by New Jersey's Clean Energy Program (NJCEP) and/or the New Jersey Board of Public Utilities (BPU). The Guidebook will be available on the New Jersey Clean Energy website at http://www.NJCleanEnergy.com.

Program Description

The Renewable Energy Incentive Program offers upfront incentives to customers of utilities regulated by the BPU who invest in eligible electricity-producing equipment for use in offsetting onsite electric consumption. REIP incentives improve the financial returns of renewable energy investments by offsetting the cost of system installation and/or providing ongoing benefits in the form of renewable energy credits from the generation of renewable energy.

The REIP is considered one market development tool in New Jersey's Clean Energy Program, which offers upfront financial incentives, educational resources, and information on renewable energy systems, energy efficiency measures, and combined heat and power technologies. These programs are available to all New Jersey ratepayers, including residential customers, businesses, schools, and municipalities served by regulated electric and gas utilities.

Applicants requesting funding through the REIP must satisfy all of the eligibility requirements contained in the application forms and technical worksheets, and must adhere to all of the processes and procedures contained in this Program Guidebook.

System applications approved under previous programs' processes and procedures remain governed by those processes until those projects are completed, expired, or cancelled.

Changes to this Program Guidebook may come from New Jersey's Clean Energy Program, from the Market Manager who administers the program, and/or the Program Coordinator. Any such changes will be publicized, and stakeholders will have an opportunity to comment and provide input on future versions of the guidebook.

Market updates and information on installed renewable energy capacity, program participation, budgets and project approvals are available at http://www.NJCleanEnergy.com.

Support for Customer Sited and Non-Customer Sited Renewable Energy Systems

The Renewable Energy Incentive Program provides support for both customer-sited and non-customer sited renewable energy systems, in the form of upfront incentives for eligible customer-sited systems, as well as REC registration and facilitation services for all types renewable energy systems.

"Customer-sited" is defined as a renewable generation system that is interconnected with the electric distribution system, but which is located on the customer's side of the retail electric meter and exists primarily to serve the customer's load.

"Non-Customer-sited" is defined as a renewable generation system that is interconnected and operates on the grid side of the retail electric meter and exists primarily for the production of wholesale power. These projects produce energy that goes directly into the electric grid, without any energy being used for on-site consumption, so they are not eligible for REIP upfront incentives. The BPU is planning to launch a new program in 2009 to support large-scale renewable energy projects, also called grid supply projects.

Participation Overview

This section provides a brief overview of the program participation process. Additional details on program procedures and processes are provided in the remainder of this Operations Manual.

The participation process can be broadly grouped into four steps:

1. Determining Eligibility
2. Initial Application
3. Final Application, Inspection, and Upfront Incentive Processing
4. Earning and Trading Renewable Energy Credits

1. Determining Eligibility

A potential REIP participant starts by identifying the type and size of system appropriate for their situation and submitting a completed application package. An application must be submitted for all customer-sited projects, regardless of whether the project is eligible for, or is applying for, an incentive.

- Solar projects with a rated capacity of less than or equal to 50 kW DC ("small systems") are eligible for an upfront incentive and RECs.
- Solar projects with a rated capacity of greater than 50 kW DC ("large systems") are eligible only for RECs.
- Non-solar customer-sited projects are eligible for upfront incentives and RECs for any system size.

Customer-Sited Renewable Energy Technology Type	Upfront Incentives	RECs
Solar Electric – Small (up to 50 kW DC)	X	X
Solar Electric – Large (>50 kW DC)		X
Sustainable Biomass	X	X
Wind – Terrestrial[1]	X	X
Fuel Cell (if powered from a renewable resource)	X	X

All customer-sited projects must demonstrate that the estimated annual energy production does not exceed the onsite consumption, and that the system complies with all applicable program and interconnection requirements.

2. Initial Application

The contents of a completed initial application package generally include an application form, the appropriate technical worksheet, documentation of annual electric consumption, a signed contract for the system to be installed, and a site map. A complete list of requirements is defined in "Application Forms and Requirements." Participating vendors who have experience with the program requirements can assist customers with these steps.

All new applications are time-stamped when they are received by the REIP Market Manager and reviewed to determine if they are complete. It is the responsibility of the applicant/vendor to ensure that their application is complete.

***The Market Managers will not process incomplete applications for approval*.** They will request the missing information from the customer and installer, which must be provided within 30 days. If the required information is not provided, incomplete applications will be returned to the applicant and the application will be closed.

For applicants requesting upfront incentives, once the initial application package is complete and determined to comply with program requirements, and if sufficient program funds are available within the funding cycle, the participant will receive an upfront incentive approval letter. This letter represents a commitment of program upfront incentive funds to the participant, contingent upon the timely and proper completion of the project. The letter also certifies that the project, as proposed, will be eligible to generate RECs in accordance with the state's RPS rules. If sufficient program funds are unavailable, the application will be returned.

For applicants that are not requesting upfront incentives, once the initial application package is complete and determined to comply with program requirements, the

[1] Offshore wind projects are not developed through the Renewable Energy Incentive Program. For more information, refer to www.NJCleanEnergy.com.

participant will receive a project acceptance letter. This letter certifies that the project, as proposed, will be eligible to earn RECs in accordance with the State's RPS rules.

3. Final Application, Inspection, and Upfront Incentive Processing

Once approved, projects have 12 months in which to complete the installation and submit final project documentation, as summarized in the table below. Extensions are available in some cases; the criteria for granting extensions are detailed in a later section.

This final documentation requirement typically includes the final upfront incentive application, evidence of a Home Performance with ENERGY STAR® audit, a revised technical worksheet, and tax certification (where applicable for commercial projects). After the REIP inspection or quality assurance review, the installation must also pass a local code inspection. The utility interconnection application and the local code UCC must be submitted after a successful local code inspection.

After receipt of all paperwork for review and approval, expected turnaround time for upfront incentive payments is 60 days. Project approval for projects that do not receive upfront incentives is usually provided within 30 days. Subsequent sections of this Program Guidebook provide further details on program eligibility requirements, processes, and procedures.

4. Earning and Trading Renewable Energy Credits

Owners of eligible generating units, installers, REC aggregators/brokers, and Load Serving Entities may establish renewable energy credit (REC or SREC) accounts. These accounts are currently hosted and managed by two entities: the Generation Attribute Tracking System (GATS) managed by PJM-Environmental Information Systems (PJM-EIS); and Clean Power Markets (CPM), which is the current SREC administrator.

In 2009, there will be a transition of SREC trading platforms, from Clean Power Markets to PJM-EIS-GATS. More information about this transition will be made available as the transition takes place, and all account holders will be provided with support and training in making the transition.

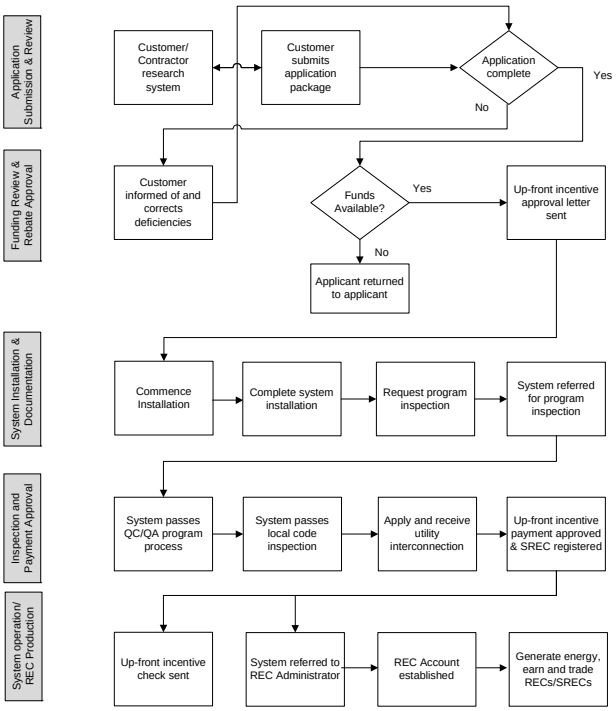
Until the transition, owners of generating systems less than 10 kW can obtain and access REC accounts via http://www.NJCleanEnergy.com/srec, while owners of generating systems greater than 10 kW can obtain and access REC accounts via https://gats.pjm-eis.com/mymodule/mypage.asp. After the transition, expected to be complete by June 1, 2009, all systems will be required to register with the PJM-EIS-GATS platform.

To establish a REC account for a generating unit, participants must register for an electronic account on the REC Administrator's website. Registration and account activation cannot be completed until the system has been referred to the GATS Administrator by the Market Manager, and the Market Manager's referral is contingent upon verification that the system is installed and has been determined to have met all the requirements of the NJCEP, including passing all required program, utility and local government code inspections.

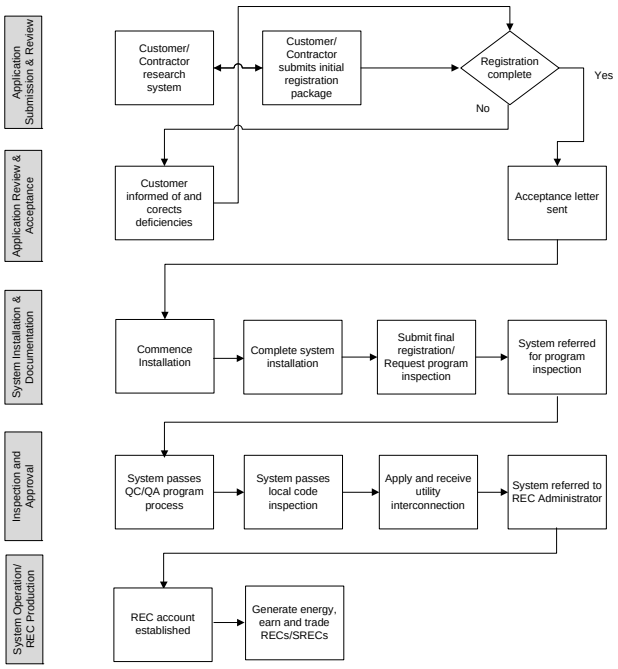
Once registered, generation data is entered on a monthly basis, and RECs are issued by the GATS Administrator and deposited in the participant's account in increments of 1 MWh (megawatt-hour). Account holders can list RECs for sale and contact potential buyers on the REC program website's electronic bulletin board or through other means.

Figures 1 and 2 below illustrate the process for project applications requesting and not requesting upfront incentives, respectively.

SUMMARY OF PARTICIPATION STEPS for UP-FRONT INCENTIVE PROJECTS (Figure 1)



SUMMARY OF PARTICIPATION STEPS for NON-INCENTIVE PROJECTS
(Figure 2)



Program Management and Staffing

Customers interested in applying for renewable energy projects please call:
1-866-NJSMART (1-866-657-6278).

Application forms, eligibility processes, and information about the New Jersey Renewable Energy Incentive Program can be found at http://www.NJCleanEnergy.com.

Customers who have questions about previously submitted applications please call or email:

- Tammy Gray; REIP Program Operations Specialist; tammy.gray@csgrp.com; 732-218-3412
- Jessica Cooney; REIP Administrative Assistant; jessica.cooney@csgrp.com; 732-218-3415

Contractors and other trade allies who have questions about the Renewable Energy Incentive Program please call:

- Mark W Loeser, REIP Account Manager; mark.loeser@csgrp.com; 732-218-4430

Customers, contractors or other trade allies who have questions about extensions, expirations or appeals please call or email:

- Larry Barth, REIP Program Manager; larry.barth@csgrp.com; 732-218-3413

Customers or contractors who have questions about renewable energy technologies, inspections or quality assurance, please call or email:

- Mark Valori, REIP Technical Director; mark.valori@csgrp.com; 732-218-3411

Customers or contractors who have questions about the transition of SREC trading to PJM-EIS-GATS, please call or email:

Market Manager:

- Steve Wiese, REIP SREC Manager ; steve.wiese@csgrp.com; 732-218-3409

PJM-EIS GATS:

- GATS Administrator; gatsadmin@pjm-eis.com, 610-666-2245

Clean Power Markets:

- Nathalie Shapiro; shapiro@cleanpowermarkets.com, 201-612-3221

Customers, contractors and other trade allies who have questions about the Renewable Energy Grid Supply Program please call or email:

- Ron Jackson, Research Scientist, Office of Clean Energy ; ronald.jackson.@bpu.state.nj.us (609) 777-3199

Customers, contractors and other trade allies who have questions about the Clean Energy Manufacturing Fund please call or email:

- Paula Durand, Senior Venture Officer, New Jersey Economic Development Authority: pdurand@njeda.com (609) 943-5928

Customers, contractors and other trade allies who have questions about the Clean Energy Fund please call or email:

- Joseph Tetteh, Associate Director Business Relations, New Jersey Commission on Science and Technology: joseph.tetteh@scitech.state.nj.us (609) 984-1671

Program Eligibility

To qualify for an upfront incentive under the REIP, both the consumer and the renewable energy system must satisfy a number of requirements. This section outlines the details of these requirements

Applicant Eligibility

To be eligible to participate in the REIP, an applicant must be a ratepayer of a New Jersey Board of Public Utilities-regulated electric and/or natural gas utility. An applicant must demonstrate payment into the Societal Benefits Charge through submission of a utility bill from the site of the proposed installation.

If the applicant is the customer of an electric Municipal Utility Authority or an electric cooperative and a BPU-regulated gas utility, he/she can demonstrate evidence of paying into the SBC with a gas utility bill for the site of the proposed installation. Only systems installed in New Jersey are eligible for an incentive.

The REIP accepts applications for renewable energy systems proposed for a structure that has yet to be built and therefore has not yet received a utility bill. Documentation needed for new construction projects is outlined below.

Vendor Eligibility

A list of active solar photovoltaic and wind installers is available on the REIP vendor section of the New Jersey's Clean Energy Program website. To be listed on the website, contractors must have completed three successful renewable energy system installations that have then passed the REIP quality control inspections.

This list is provided as an informational source only. Inclusion on this list does not constitute any endorsement, advertisement, warranty, promise of employment, statement of qualification, or other representation of service by the REIP Market Manager or the New Jersey's Clean Energy Program. NJCEP recommends that prospective customers contact several installers for information and project bids.

As a prerequisite to being included on the list, all vendors of BPU qualified clean energy generation equipment are required to agree to indemnify, defend, and hold the BPU and their representatives, including the Market Manager, harmless from any act or omission resulting in personal injury (including death) or property damage. This agreement is detailed in the NJCEP Vendor Agreement.

Once the vendor has completed the NJCEP Vendor Agreement, he/she must submit an online application, which will be reviewed by the Account Manager. If the application is approved, the vendor will be notified and their listing will be added to the vendor listing.

Contracting firms can be listed as distributors, installers, manufacturers, and/or licensed electricians in New Jersey who also have experience working with solar electric systems.

While the State of New Jersey requires that residential renewable energy installers have a Home Improvement Contractors (HIC) license, the REIP Market Manager and NJCEP do not certify or otherwise qualify installers. An HIC license will be required for all residential applications. The vendor agreement and online applications are available at http://www.NJCleanEnergy.com.

Systems may also be self-installed by the purchaser (owner). These self-installed systems will be eligible for upfront incentives and RECs.

System and Technology Requirements and Eligibility

Generation Technology Types

There are four types of renewable energy systems currently eligible to participate in the Renewable Energy Incentive Program:

1. Solar Electric (Photovoltaic, or PV) – Systems that produce electricity directly from sunlight
2. Sustainable Biomass – Systems that use a sustainable and renewable supply of organic material to produce electricity
3. Fuel Cell – A fuel cell is an electrochemical energy conversion device. It produces electricity from external supplies of fuel (hydrogen) and an oxidant. These react in the presence of an electrolyte. To be eligible for participation in the REIP Program the Fuel Cell must use a renewable source to produce the hydrogen fuel.
4. Wind Generation – Generators that convert the kinetic energy of wind, captured by turbines, into electricity

System Capacity and Upfront Incentive Payment Limits

The REIP is intended to support renewable electric systems that offset the customer's onsite electric consumption, but do not produce net excess generation from the site on an annual basis. These are typically net-metered systems. REIP upfront incentives are available to support the following technologies:

- Solar electric systems up to 10 kW DC rated capacity for residential customers, and up to 50 kW DC for non-residential customers. Solar energy systems greater than 50 kW are also eligible to participate in the REIP, but do not receive upfront incentives on any of the capacity installed, including the first 50 kW DC of rated capacity. (These systems for solar energy were formerly served by the SREC-Only Pilot Program.)
- Wind systems, where the upfront incentive is based on the expected performance of the system, and is capped at $51,200 for residential systems. Non-residential systems are capped at the estimated annual onsite electric use.

- Biopower systems, where the upfront incentive for non-residential systems is capped at the estimated annual onsite electric use. Biopower upfront incentives for residential applications are capped at 10kW, although residential applications are not typical with currently available technologies.

AC System Ratings

Because system size and entity participation limits are designated by the AC capacity of the renewable energy system, a consistent approach to calculating a system's AC capacity is warranted. In the REIP, a renewable energy system's AC capacity is defined as the lesser of:

- The sum of the AC nameplate capacity ratings (watts) of the inverters installed; or,
- The sum of the DC nameplate capacity ratings of the renewable energy system (modules installed, turbine nameplate capacity) multiplied by the inverter's published peak efficiency rating.

System Size Caps

Upfront incentives for non-solar installations are available to support up to 1 MW AC of rated capacity for fuel cell and sustainable biomass projects and 750,000 kWh of production of wind turbine systems.

Eligible systems cannot be sized to produce *more* than 100% of the historical or expected amount of electricity consumed at the site of installation.

Residential upfront incentives are limited to 10 kW DC of rated capacity. An exemption to this limit is available for farms and non-profit organizations (including houses of worship) on residential electric rates. To be eligible for this exemption, farms must submit tax forms demonstrating that they spend $1200 or more on electricity; churches and non-profits must submit 501(c)-3 forms. Multi-family residential installations are not subject to the 10 kW DC caps, but must be sized so that total output is less than annual site consumption, and each individual array is sized to procure no more than the annual electric consumption at the meter to which it is connected.

For new construction and additions, or any other applications where one full year of electricity consumption cannot be documented, the Market Manager shall have the discretion of estimating annual consumption based upon applicant submission of a list of onsite loads with expected annual operating hours, building use, and square footage data. A residential consumption calculator has been developed and can be found at http://www.NJCleanEnergy.com. The Market Manager shall determine whether the documentation supplied justifies the system size proposed considering all other REIP application requirements and limitations.

Installation Requirements

All systems must be installed in accordance with manufacturer specifications and the provisions of the National Electrical Code. System installation must match the

information submitted with the final project documentation and meet all applicable local, state, and federal codes.

Warranties

Eligible systems must be covered by an all-inclusive warranty for at least five years from the date of installation to protect the purchaser against component or system breakdown. The warranty must cover all major components of the system against breakdown or degradation in electrical output of more than 10% from their originally rated electrical output during the five-year period. The manufacturer and installer may provide the required warranty in conjunction, covering major system components and labor, respectively. An owner's manual, including warranty documentation, must be delivered to the customer on completion of the installation.

Certification that Systems are to Remain in New Jersey

A completed application package must include a signed certification from the applicant stating that if equipment receiving an upfront incentive payment is sold or transferred outside of New Jersey with 10 years of the upfront incentive payment date, the applicant is required to repay a pro-rated share of the upfront incentive amount. The form can be found at http://www.NJCleanEnergy.com.

Program and Upfront Incentive Delivery

REIP upfront incentives are not intended to cover the entire system cost. Rather, they are intended to reduce installation costs of a renewable energy system to enable cost-effective investments for as wide an array of ratepayers as possible. Upfront incentive levels are calculated on a per-site basis and are dictated by the type of applicant, type of equipment, and the size of the system installed.

Upfront Incentive Design

This section provides information on the current program upfront incentive levels and examples of upfront incentive calculations. Depending upon the specific project, the following factors are used to determine the proper upfront incentive calculation:

1. System type
2. System size
3. Energy audit performed (residential projects only)
4. Application type (residential/non-residential)
5. Past program participation (annual and aggregate)
6. Use of major components manufactured/assembled in New Jersey

To provide a specific example, the REIP upfront incentives currently available for solar electric applications are listed in the table below. These upfront incentive levels became effective January 9, 2009.

As part of the upfront incentive structure, there will be two tiers in each upfront incentive block for the residential solar projects. The standard upfront incentive levels presented in the table below will be available for those residential projects that have a Home Performance with ENERGY STAR audit, or who participate in the Residential New Construction Program. Residential projects that do not participate in the Home Performance with ENERGY STAR or Residential New Construction Program will be eligible for upfront incentives that are $0.20/Watt less than the standard upfront incentive level.

Solar residential projects owned by third parties through with power purchase agreements (PPAs) or lease purchase agreements are considered solar non-residential for the purpose of determining upfront incentive level. These projects remain limited by the maximum system size for a residential project, which is the lesser of annual on-site consumption or 10 kW.

Non-residential projects include commercial, industrial, non-profit, farms, schools, and public entities, as determined by the entity's rate tariff. Projects greater than 50 kW are not eligible for a solar incentive. All examples reference system sizes in DC capacity.

REIP Solar Upfront Incentive Schedule
(Effective February 3, 2009)
(Table 1)

System Type	**Column A**: Residential Solar PV Applications	**Column B**: Non-Residential Solar PV Application
Up to 10,000 watts - with an Energy Audit	$1.75 per watt	N/A
Up to 10,000 watts - without an Energy Audit	$1.55 per watt	N/A
Up to 50,000 watts	N/A	$1.00 per watt
> 50,000 Watts	N/A	$0.00 per watt

Four examples of the basic solar upfront incentive calculation are provided below.

Example #1: A home-owner wants to install a 4,000 watt system at their residence. To calculate the incentive, use column A in the table above for Residential Solar installations. The customer elects to have an energy audit performed by a certified Home Performance Contractor. The system is below 10,000 Watts, so the calculation is:

# of Watts	**X**	**$/Watt**	**=**	**Total Incentive**
4,000	X	$1.75	=	$7,000

Example #2: A home-owner wants to install the same 4,000 watt system at their residence without an energy audit. To calculate the incentive, use column A in the table above for Residential Solar installations, but use the lower upfront incentive amount from the table. The system is below 10,000 Watts, so the calculation is:

# of Watts	**X**	**$/Watt**	**=**	**Total Incentive**
4,000	X	$1.55	=	$6,200

Example #3: A business owner wants to install a 45,000 watt system at their retail store. Use column B for Non-residential Solar PV installations. Since the system size is for a non-residential application < 50,000 Watts the upfront incentive calculation is:

# of Watts	**X**	**$/Watt**	**=**	**Incentive**
45,000	X	$1.00	=	$45,000

Example #4: A business owner wants to install a 75,000 watt system at their retail store. Use column B for Non-residential Solar PV installations. Since the system size is for a non-residential application >50,000 Watts the upfront incentive calculation is:

# of Watts	**X**	**$/Watt**	**=**	**Incentive**
75,000	X	$0.00	=	$0

If either project were installed at a location owned by a public or non-profit entity and is less than 50 kW, use column B in the upfront incentive table for all steps of the upfront incentive calculation.

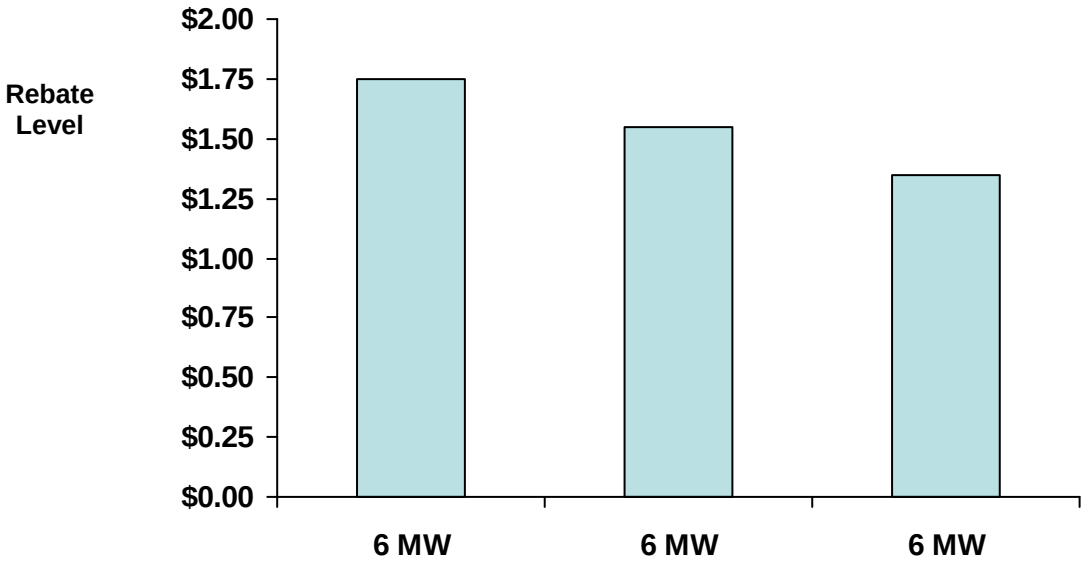
As indicated in the upfront incentive table, there are two different sets of upfront incentive levels, one for residential customers and one for non-residential entities. An entity's status is determined according to tax filing status and utility rate tariff, which must be communicated during the application process.

Upfront Incentive Funding for Solar PV Projects

Capacity Blocks

The program will use two mechanisms to set upfront incentives: capacity blocks and funding cycles. In the 2009 program, the goal is to achieve 9 MW of installed solar capacity for projects receiving upfront incentives. A capacity block is defined represents 6 MW of installed capacity, so the goal is to achieve 1.5 capacity blocks in the program year. When a capacity block is filled, the upfront incentive rate will automatically be reduced. The standard upfront incentive decline at the end of a capacity block is $0.20/Watt.

Capacity Blocks
(Figure 3)



Funding Cycles

In order to respond to market conditions, the annual budget is also broken down into three funding cycles. A funding cycle is a 4-month period where a certain budget is allocated through project commitments. Each funding cycle is expected to lead to 3 MW of residential PV installations.

The rate at which funding within a cycle is committed will determine upfront incentive rates in the next funding cycle. The first funding cycle is January 1 through April 30; the second funding cycle is May 1 through August 31; and the third funding cycle is September 1 through December 31. At the beginning of each funding cycle, solar project upfront incentive applications will be accepted until the funding for the cycle is expended.

Upfront incentive rates may change depending upon how quickly a particular funding cycle is committed. For the first two funding cycles of the year, if the budget is committed within the first month of the cycle, then the upfront incentive will drop by $0.05/Watt for the next funding cycle.

If available funds are slow to be reserved (i.e. if it takes more than 6 months from the start of a cycle to reserve all funding for that cycle), then the upfront incentive level will be increased by $0.15/Watt for the next funding cycle.

When the funding is fully committed within a funding cycle, all upfront incentive applications that have been received will be returned to the customer. When the next funding cycle opens, upfront incentive applications will be accepted again until funding is fully committed and the same process is followed for each funding cycle until that year's budget is fully committed.

The REIP will provide timely web-based reporting on funding cycle and block subscription levels.

Upfront Incentive Funding for Wind Projects

Upfront incentives for wind projects are the same for residential and non-residential projects. Wind upfront incentives do not have funding cycles, capacity blocks, or changing rebate rates, as do solar projects. Wind upfront incentives are based on an Expected Performance Based Buy-Down (EPBB) methodology, in which the upfront incentive is based on the expected kWh production of a specific wind turbine at a specific site. Residential rebate amounts for wind applications are limited to $51,200.

The EPBB estimates the kWh production for a given specific wind turbine, which must be listed on the approved list. The kWh production estimate is based on the where the wind turbine will be located, the hub height of the turbine, and documented wind speeds at that location. The associated power output of the turbine is determined using the turbine's power curve at those wind speeds. Upfront incentive rates are designed to produce higher upfront incentives for projects that maximize the power production at locally-present wind speeds.

The EPBB approach calibrates the upfront incentive more closely to the goals defined in the Renewable Portfolio Standard and Energy Master Plan, which are based on energy output (kWh).

The application process for wind energy is performed in two steps. In the first step, a pre-application is completed and submitted with the required documentation, including a detailed site map of the proposed system location, the proposed turbine hub height, and the height of any obstructions within 500 feet of the turbine location.

Upon submission of the pre-application, the applicant is informed of the upfront incentive amount for which the project would be qualified. This amount is based on the expected performance of the system at its particular location, and is calculated using the program's wind output calculator.

In the second step of the application process, applicants intending to install wind energy systems must provide a complete application package which includes:

- The upfront incentive application,
- Technical worksheet,
- 12 months of electricity consumption as shown on the electric utility bill or the residential consumption calculator,
- A 10 year certification, and
- 'Landscape' formatted photographs depicting a 360° view of the proposed turbine location. (The best method of producing these photographs is to stand at the proposed turbine location, face north, and takes a picture at every 45° until facing north again. This will result in approximately eight photos detailing the installation site.)

For wind installers who have access to the REIP-approved wind EPBB calculator, the two steps can be done at the same time - the pre-application and incentive application, along with the other required documents, may be submitted at the same time.

If an individual wishes to test the wind site prior to incentive application, the NJBPU sponsors an anemometer loan program. For details on the anemometer loan program refer to http://www.njcleanenergy.com/renewable-energy/technologies/wind/small-wind-systems/anemometer-loan-program.

New Jersey Clean Energy Program Wind Upfront Incentives
(Table 2)

Wind Systems	
Expected Performance Based Buy-down (EPBB)	
Modeled Annual kWh Production	**Upfront Incentive Level**
1-16,000 kWh	$3.20 / kWh
16,000 - 750,000 kWh	$0.50 / kWh

The following are two examples of the wind upfront incentive calculation.

Example #1: A home owner wants to install a Bergey XL-S 10 kW system at their residence. Based on their wind EPBB pre-application the average annual wind speed is 11 mph at a hub height of 100 feet at a site altitude of 10 feet. From the Wind EPBB calculator the Bergey XL-S will have an estimated annual production of 5,495 kWh:

# of kWh	X	$/Watt	=	Total Incentive
5,495	X	$3.20	=	$17,584

Example #2: A business-owner wants to install a Wind Turbine Industries (Jake) 20 kW system at their location. Based on their wind EPBB pre-application the average annual wind speed is 11 mph at a hub height of 120 feet at a site altitude of 10 feet. From the Wind EPBB calculator the WTI Jake 20kW turbine will have an estimated annual production of 18,014 kWh:

# of kWh	X	$/Watt	=	Incentive
16,000	X	$3.20		$51,200
2,014	X	$0.50	=	$1,007
		Total		**$52,207**

Upfront Incentive Funding for Fuel Cell and Sustainable Biomass

Upfront incentives for power projects utilizing fuel cells and sustainable biomass are based on installed system capacity, as in table below. In order to be eligible for an incentive, sustainable biomass projects must obtain a determination of sustainability from the NJDEP.

New Jersey Clean Energy Program
Fuel Cell and Sustainable Biomass Upfront Incentives
(Table 3)

Fuel Cell and Sustainable Biomass Systems	
Systems Up to 10 kW	
Watts	**Upfront Incentive Level**
1-10,000 watts	$5.00/watt
Maximum upfront incentive as percentage of eligible system costs	60%
Systems Greater than 10 kW	
Watts	**Upfront Incentive Level**
1 – 10,000 watts	$3.00/watt
10,001 to 100,000 watts	$2.00/watt
100,001 to 500,000 watts	$1.50/watt
500,000 watts, up to 1,000,000 watts	$0.15/watt
Maximum upfront incentive as percentage of eligible system costs	30%

The following is an upfront incentive calculation for a sustainable biomass project.

Example #1: A Municipal Waste Water Treatment Facility is developing a methane harvesting project using anaerobic digesters, dryers and a gasifier. The throughput is such that a 2 MW system is planned for installation. However, only the first MW will receive an incentive. The upfront incentive calculation is as follows:

# of Watts	X	$/Watt	=	Total Incentive
1 – 10,000	X	$3.00		$30,000
10,001 – 100,000	X	$2.00		$180,000
100,001 – 500,000	X	$1.50		$600,000
500,001 – 1,000,000	X	$0.15		$75,000
		Total	**=**	**$ 885,000**

Upfront Incentive Enhancements

Additional upfront incentive amounts are available to encourage projects that use renewable energy systems or components manufactured or assembled in New Jersey. An additional $0.25 per watt (of capacity) is available for projects using NJ-manufactured or NJ-assembled equipment, such as inverters, solar PV modules, wind turbines or blades, or sustainable biomass system components.

The extra upfront incentive will be available only to current or potential REIP participants. Customers who have already received a REIP incentive, or who have installed systems and received a REIP inspection but not yet been paid, will not be eligible for the extra incentive. Questions on eligibility and specific requirements for the enhanced upfront incentives should be directed to the REIP Market Manager.

Past Participation: Incentives for Systems Installed at the Same Site

Upfront incentive levels are calculated on a per-site basis. The definition of a site for the purposes of upfront incentive eligibility and calculation is a parcel of real property including any adjacent or contiguous property under common ownership. An upfront incentive request for multiple systems to be installed on one site, under common ownership, regardless of the number of meters, should be contained in one application, and the upfront incentive commitment should be calculated as if it is one system in aggregate.

REIP upfront incentives are calculated based upon the size of a system. All phases of system installation will be considered as a whole system and subject to per-site limits. Any additional output capacity added to that same system or site will be considered an extension of the previously existing system or capacity.

If an applicant wishes to install a system in phases or to install subsequent systems on one site, upfront incentive calculations will include consideration of previously installed capacity. The dollar-per-watt allocation will apply according to the system-size requirements of the current upfront incentive levels and the appropriate capacity tiers.

For example, if a site has been previously given a residential upfront incentive for a 9 kW solar electric system and its owner wishes to add another 9 kW to the site (assuming the

total system size is below their on-site consumption), 1 kW of the new system will be calculated in the first upfront incentive tier (0 to 10 kW) up to a maximum of $51,200 and the remaining 8 kW will not receive funding.

To expand an already existing system, an applicant must submit a new application, technical worksheet, and other required application documents for the additional system phase. The applicant must indicate on the application form that a system which previously received an upfront incentive already exists at the same site. If an applicant fails to notify the REIP Market Manager of a pre-existing system at the site of installation, the upfront incentive may be denied or adjusted.

The total expected output of the expanded system cannot be greater than the site's annual electric consumption. Also, any expansion for a residential system is limited to a total (original plus expanded capacity) of 10 kW of installed capacity.

Past Participation: Upfront Incentive Limits per Entity

To ensure that the REIP Program achieves its goals as equitably and efficiently as possible, the NJBPU has established maximum per-entity annual upfront incentive caps. The table below defines entities, gives examples, and describes their caps (public K-12 schools have their own caps and are discussed below).

Upfront Incentive Levels Per Entity
(Table 4)

	Public	**Private**
Definition of entity	Distinct and separate budgetary authority	Corporate parent or holding company – includes all related subsidiaries and affiliates regardless of separate EIN numbers or locations within New Jersey
Examples	• New Jersey state entities: New Jersey has 18 departments comprising 57 agencies.[2] For REIP purposes, departments are considered distinct budget entities • US Government: The US government has 15 departments and 56 agencies [3]. For REIP purposes, all departments and agencies are considered distinct budget entities • Municipalities • Public colleges and universities	• Corporation or holding company composed of several subsidiaries. Examples: • Wal-Mart and Sheraton have many stores and hotels. The entity cap should apply to the corporation overall, not at a store level. • Federated Department stores is the parent of Bloomingdale's and Macy's. The cap applies to the Federated parent. • Non-profit organizations • Private residences • Private schools (including parochial schools, colleges, and universities)
Annual upfront incentive cap ($M/yr)	$2.5 million over 12 months	$5.0 million over 12 months
Aggregate upfront incentive cap	$5 million over 2 years	$20 million over 4 years

[2] See http://nj.gov/nj/deptserv.html
[3] See http://bensguide.gpo.gov/files/gov_chart.pdf

Additional Details

- **Project Cap** – Once a project has been accepted in the program, the earliest an entity may apply for subsequent upfront incentive funding is 12 calendar months from the last application.

- **Expanded Project Cap** – Solar electric projects which exceed the 50 kW project size shall not be eligible for any upfront incentive. Non-residential net-metered wind and biopower projects are capped at 2 MW.

- **Entity Cap "year" –** The REIP Program uses a rolling 12-month period (or "anniversary" basis) for tracking entity cap limits. Once the entity cap limit for applications has been reached, the earliest an entity may apply for subsequent upfront incentive funding is 12 calendar months from the last application.

- **Power purchase agreements –** The entity cap for a power purchase agreement applies to the host site, rather than to the project developer or financer.

- **Exemptions to entity caps –** In a 7/7/2005 Order, the BPU outlined conditions allowing for exemptions to the maximum funding amount per entity per year and in aggregate over the four-year funding level described above.

  Conditions for which an exception may be considered include that the project site be located within a designated smart growth area and one or more of the following criteria:

  - The project creates or retains jobs in New Jersey
  - The project assists in the expansion of economic growth for the entity
  - The project contributes to meeting a statewide or regional greenhouse gas commitment
  - The project provides case-specific substantive congestion mitigation of local electric distribution or regional transmission system
  - The project provides case-specific substantive tax relief benefits

  To obtain an exemption, the applicant must submit a detailed description to the REIP Market Manager explaining how and why the project meets the criteria listed above. If the request receives a favorable review by the Market Manager and the Program Coordinator, BPU staff would present the exemption to the Board for its consideration and final approval.

Application Form and Requirements

Participants must submit a completed REIP Application Form and all required supporting documents (listed below) to the REIP Market Manager.

Application Completion Requirements

To apply for an onsite renewable energy generation system, a complete and accurate application must be submitted to the REIP Market Manager at:

New Jersey's Clean Energy Program
Renewable Energy Incentive Program
c/o Conservation Services Group
75 Lincoln Highway, Suite 100
Iselin, New Jersey 08330

All REIP applications must be mailed and legible, preferably typewritten. Applications that are faxed or emailed will not be considered. Applications are time stamped and reviewed upon receipt. Applications that are found to be incomplete will be given thirty days to provide information to complete the application. Upon receipt of the additional application information, the application will again be time stamped and processed in accordance with the new time stamp. Applications which remain incomplete after this 30 day window will be returned to the sender.

Complete initial applications must include all of the following documents:

1. Completed REIP Application
2. Completed REIP Technical Worksheet for applicable renewable technology, plus any attachments required by the Technical Worksheet
3. Information on the last 12 months' electric usage in kilowatt hours (either a copy of recent electric bill with yearly usage in kilowatt hours, or copies of all electric bills for the previous 12 months). If the system is to be connected to a newly constructed building (or a new addition to an existing building), then proper breakdown of expected usage, including lists of loads and the building's square footage, is required (see below for calculation process).
4. Warranty information for main system components as specified on the applicable Technical Worksheet
5. Site map detailing the location of the renewable energy technology, major system components and electrical tie in points
6. For applications requesting an upfront incentive, a signed certification that the applicant agrees to repay a pro-rated share of the upfront incentive if the installed equipment is sold or transferred outside of New Jersey within 10 years of the upfront incentive payment date (contact REIP Market Manager for standard format)
7. Copy of signed contract between customer and installer. This agreement should reflect the current rebate levels.

In addition, a copy of the Home Improvement Contractors license must be on file with the Market Manager in order to receive a residential upfront incentive. The date on the local zoning UCC must be after the application date. This ensures that projects have not been built prior to applying for an incentive.

Signed Contracts

Dealings between installer, system owner, and a third party are solely the business of the involved parties. The REIP Market Manager requires a copy of the customer contract for verification purposes, but is not responsible for upholding contractual agreements between customers and vendors. Additionally, for projects receiving upfront incentives

the Market Manager will only remit upfront incentive payments to the party specified by the applicant in the REIP Upfront Incentive Application Form on file.

Electric Load Estimates for New Construction Projects

Applications for new construction projects must include a detailed list of estimated electricity consuming loads at the site of system installation. This should include a breakdown showing expected annual consumption derived from appliance volts × amps = watts × expected annual operating hours. The Market manager has developed and vetted a residential electric consumption calculator that should be used to verify on-site consumption. This form is based on an EPA estimator and is available on http://www.NJCleanEnergy.com.

Contract Requirements

The requirements for Contracts vary according to customer type and project financing.

a) For ALL private sector applications, a copy of the signed contract between the customer and installer **must be included** with the initial application package.

b) For public entity applications a copy of a Public Resolution to Solicit Bids **must be included** with the initial application package. A signed contract between the customer and installer is due to the REIP Market Manager within 180 days of approval date.

c) Third party ownership

d) Such contracts must conform to consumer fraud law requirements in the State of New Jersey.

All contracts must include a complete breakdown of costs including, but not limited to: installation costs, customer cost, and estimated REIP incentive. Contract language must also indicate that upfront incentive levels may change in the future, and that final contract terms may need to be adjusted to reflect any such changes.

Upfront Incentive Budget Categories

The following table lists the budget categories used in the REIP. New reservation approvals are counted against the appropriate budget category. The amount of funds available in each of the budget categories is determined by the Board taking into consideration funds carried forward from previous years, outstanding commitments, and project completions. The Market Manager will calculate the amount remaining in each Board approved budget category based on reconciliation of program accounts with the Clean Energy Program, and then track all project activities towards the appropriate budget category. All budget category system size references are based on kW DC.

2009 REIP Program - Budget Categories
(Table 5)

Budget Category Name	Eligible Projects
Solar Residential: Less than or equal to 10 kW	All residential projects less than or equal to 10 kW of rated capacity with the exception of those owned by a third-party such as a power purchase or lease purchase agreement.
Solar Non-residential: Less than or equal to 50 kW	All non-residential projects up to 50 kW of rated capacity: includes all commercial, public, and non-profit organizations (municipalities, other governments, public colleges and universities, public schools (K-12), affordable housing organizations), and residential projects with power purchase agreements (PPAs) or lease purchases.
Wind and Sustainable Biomass (Non-Solar)	All new behind-the-meter customer-sited wind and sustainable biomass projects up to the net metering limit or the applicable maximum incentive level.

Solar residential projects owned by third parties with power purchase agreements (PPAs) or lease purchase agreements are considered solar non-residential for the purpose budget category and upfront incentive level. These projects remain limited by the maximum system size for a residential project, which is the lesser of annual on-site consumption or 10 kW.

Upfront Incentive Approvals

With three annual funding cycles, no queues will be initiated and no advance reservations will be accepted for the next funding cycle. Complete applications will be processed and receive approval letters based on the order of their receipt at the start of each funding cycle If necessary, based on experience, adaptive management mechanisms (e.g. a limit on the number of first week applications that can be submitted by an installer, and/or a lottery to determine the order first week processing) may be developed and used to promote fair and efficient processing.

Project applications which do not request upfront incentives will be processed whenever they are submitted, regardless of the timing of upfront incentive funding cycles.

For upfront incentive projects applications received after quarterly funds are consumed will be returned to the applicant. Applications received after a funding cycle is closed will have no rights or privileges with respect to subsequent funding cycles.

The Market Manager will provide timely web-based reporting on funding cycle and block subscription levels. Upfront incentive approvals are released as funds are available in each of the categories listed above. Funding amounts have been defined for each quarter. Completed applications will be reviewed and approved at a rate of at least 60 per week.

Applications are time stamped upon receipt and reviewed in order of receipt. If an application is deemed to be incomplete, a notice will be sent to the customer and the

installer informing them of the missing information. The REIP Market Manager will not reserve funds for incomplete applications. It will be the responsibility of the applicant to resolve the missing information and complete the application. Once all missing material is received, the application will again be time stamped and reviewed for completeness in appropriate order.

The most recent updates to the REIP upfront incentive commitment queues are available on http://www.NJCleanEnergy.com.

Upfront Incentive Reservation Approvals

The REIP Market Manager issues funding Approval Letters to the customer and installer and, if different from customer or installer, the assigned upfront incentive recipient. The approval letter includes the upfront incentive commitment amount, the approval date, the length of commitment, expiration date, and the Upfront Incentive Confirmation and Final Application Form (to be submitted at completion).

The Approval Letter represents the Program's commitment of funds for the project as specified on the application. This commitment is limited to the completion of the project, in compliance with all Program processes and procedures, and the submission of a complete Upfront Incentive Confirmation and Final Application Form on or before the expiration date as designated in the Approval Letter.

The REIP Market Manager will not issue upfront incentive approval letters that could result in commitments exceeding the Board approved budget in any budget category.

Upfront Incentive Reservation Commitment Periods and Extensions

The reservation approval procedures and installation deadlines are designed to strike a balance between the need for rigorous and efficient program administration, including the need to strongly discourage speculative project applications and eliminate distressed projects that cannot complete as planned, with the need for reasonable completion intervals that reflect implementation realities and the need for commercial contracting confidence.

The following describes the processes for completion deadlines and extensions for all REIP applications. In all cases, upfront incentive reservation periods begin with the date of the REIP upfront incentive reservation Approval Letter.

For ALL projects less than 10 kW DC in size:

1. Projects will be given 12 calendar months to complete, as measured from the date on the Approval Letter to the date the final upfront incentive application is received by the Market Manager.
2. No extensions will be granted, but projects may reapply under upfront incentive levels in force at the time of reapplication.

For all non-residential projects greater than 10 kW DC in size:

- Projects will be given 12 calendar months to complete, as measured from the date on the Approval letter to the date the final upfront incentive application is received by the Market Manager.
- If the project cannot complete within the initial 12-month period, the customer/contractor may apply for an extension. Extension requests must be received before 5:00 PM on the expiration date of the initial upfront incentive commitment, and must include detailed documentation regarding the reasons for the delay. Progressive documentation of project issues to the Market Manager as they occur throughout the project will significantly improve the case for a project extension.
- The Market Manager will consider extensions in cases where significant progress has been made toward completion of the project, and where the delay was unavoidable and unforeseeable at the time of the upfront incentive application. Approval of any extension will depend on the totality of circumstances related to reasonable progress toward each of the items listed below and the reason why the delay was unavoidable and unforeseeable as demonstrated through documentation provided with the extension request.
    - Physical construction has started at the customer's site, which means that: a) construction permits have been granted (where applicable); b) project are materials either onsite or in storage; and c) installation work has started
    - Irrevocable orders have been placed with the manufacturers of the major items of equipment (PV modules and inverters)
    - Construction permits have been approved by the authority having jurisdiction (where applicable)
    - Engineering and design work has been started and progressed to a significant degree
    - Material and/or equipment have been received from the manufacturer, and are either onsite or in storage

    If granted, the extension will be for 6 calendar months; no 2nd extensions are permitted. If a project exceeds the extended deadline, registrants will be required to re-register their project in the Renewable Energy Incentive Program.

For all Public (School, State, County, and Municipal) projects over 10 kW but less than 50 kW in size:

- Projects will be given 12 calendar months to complete, as measured from the date on the Approval Letter to the date the final upfront incentive application is received by the Market Manager.
- If the project cannot complete within the initial 12-month period, the customer/contractor may apply for an extension. Extension applications must be received before 5 PM on the expiration date of the initial upfront incentive commitment, and must include detailed documentation regarding the reasons for the delay. Progressive documentation of project issues to the Market Manager as they occur throughout the project will significantly improve the case for a project extension.

- The Market Manager will grant extensions using the same approval processes established above for Private sector projects over 10 kW, with additional consideration for documentation of procurement (i.e., customer contracting) and/or related litigation delays. Documented evidence of contracting and/or litigation delays will be strongly considered in the extension approval.
- If granted, the extension will be for 12 calendar months.
- After the expiration of the extension, a further extension may be granted only in cases where litigation related to public entity contract award can be documented. If granted, the further extension will be for 6 months; no further extensions are permitted.

For non-rebated solar projects greater than 50 kW DC in size:

- Projects will be given 12 calendar months to complete, as measured from the date on the acceptance letter to the date the final registration application is received by the Market Manager.
- If the project cannot complete within the initial 12-month period, the customer/contractor may apply for an extension. Extension requests must be received before 5:00 PM on the expiration date of the initial acceptance letter, and must include detailed documentation regarding the reasons for the delay. Progressive documentation of project issues to the Market Manager as they occur throughout the project will significantly improve the case for a project extension.
- The Market Manager will consider extensions in cases where significant progress has been made toward completion of the project, and where the delay was unavoidable and unforeseeable at the time of the registration application. Approval of any extension will depend on the totality of circumstances related to reasonable progress toward each of the items listed below and the reason why the delay was unavoidable and unforeseeable as demonstrated through documentation provided with the extension request.
    - Physical construction has started at the customer's site, which means that: a) construction permits have been granted (where applicable); b) project are materials either onsite or in storage; and c) installation work has started
    - Irrevocable orders have been placed with the manufacturers of the major items of equipment (PV modules and inverters)
    - Construction permits have been approved by the authority having jurisdiction (where applicable)
    - Engineering and design work has been started and progressed to a significant degree
    - Material and/or equipment have been received from the manufacturer, and are either onsite or in storage

    If granted, the extension will be for 6 calendar months; no 2nd extensions are permitted, and the project must reapply for acceptance.

Project Cancellations

The REIP Market Manager team should be promptly notified of projects that are in the queue, or have been approved, and have been cancelled by the project owner. This will enable these funds to be released to support other projects.

In order for a project to be considered cancelled, the REIP Market Manager must receive an email or signed letter from the project owner indicating that the project is cancelled. If the REIP team is given verbal indication that a project is cancelled, but does not receive written confirmation, the REIP team will prompt the project owner with an email, followed by a phone call requesting a written confirmation of project cancellation. If no response is received from the customer, a certified letter will be sent giving the customer 15 calendar days to provide written notification. If no response is received, then the REIP Market Manager will cancel the project.

Project Expiration Procedures

The REIP Account Manager monitors project expiration dates. If the REIP Market Manager has not received the final upfront incentive application or a request for extension before the expiration date the Account Manager and Market Manager will send an expiration letter via certified mail to the applicant and the installer.

Moving an Approved Project to a New Address

Owners of an approved project are permitted to change the address of the project from that reflected on the approval letter in the following cases:

1) A residential homeowner is moving to a new house at a new address location.
2) Any local government entity, including a school district provided that the local government owns both sites and is the utility customer of record

In either case, the applicant must submit revised utility consumption data at the new location. In no case can the system size at the new location be larger in system size at the original location.

In addition to new providing new energy consumption data at the new location, approved projects wishing to change location must submit a revised REIP upfront incentive application and technical worksheet. The expected kWh output for the system at the new location must be less than the consumption at the new location. If the original system size produces greater output than onsite consumption, the system size must be reduced accordingly or the project will not be approved.

Upfront Incentive Confirmation and Final Application Form

For projects eligible for upfront incentives, once the Approval Letter is received, project installation can begin. Once project installation is complete, the Upfront Incentive Confirmation and Final Application Form must be submitted to the REIP Market Manager. The date of receipt of the Upfront Incentive Confirmation and Final Application form will determine whether or not the project has met the expiration date requirements as indicated on the approval letter.

These documents should be mailed to the Market Manager at:

New Jersey Clean Energy Programs
Renewable Energy Incentive Program
c/o Conservation Services Group
75 Lincoln Highway, Suite 100
Iselin, New Jersey 08830

Once the Upfront Incentive Confirmation and Final Application form is received, a REIP Inspection should be scheduled.

System as Installed Differs from Documentation in Approved Application

It is expected that the system design and initial applications will in general reflect the system as it is installed. The REIP Market Manager recognizes that changes to the system components, system size, and upfront incentive recipient are occasionally necessary after upfront incentive approval has been received. To accommodate necessary changes, the Market Manager will consider reasonable amendments to previously approved applications.

Additional upfront incentive funds will not be awarded to systems that are of a greater size or capacity than is committed to in the approval letter. Systems that are installed at a smaller size than indicated in the initial application will have their upfront incentive decreased accordingly.

Tax Certification Requirements

An important change has occurred in the application process for NJBPU programs for farms, commercial, industrial, non-profit and SUNLIT customers.

Effective January 28, 2008, a new state law (P.L. 2007, c. 101) has gone into effect. It requires that the building owner where a REIP funded project is installed must apply for and receive a Tax Clearance Certificate from the Director of the New Jersey Division of Taxation before they can receive any incentive, grant or other financial assistance. The intent of this law is to ensure that businesses receiving taxpayer or ratepayer dollars through these programs are themselves in full compliance with their state tax obligations and don't have any outstanding delinquencies or deficiencies.

The goal is to make this new requirement as simple and seamless as possible for businesses by incorporating the Tax Clearance Certificate into the standard application process. The Tax Clearance Certification must be valid and in-force at the time of the Funding Request, not at the time of payment. Businesses completing the Tax Certification application need only fill out the first page. If a business has any problem with page two, they can leave it blank and Treasury will contact them directly if they need additional information to process the request.

The following is the process for filing for and submitting the Tax Certificate:

1. The applicant obtains a Tax Clearance Application at:
   http://www.njcleanenergy.com/files/file/busasstTaxClear3_13_08.pdf

2. Complete the application and send it directly to New Jersey Treasury.

3. Treasury will process the request within 10 business days and send the Tax Certification back to the applicant.

4. The applicant sends the Certificate to the REIP Market Manager at the time of final application paperwork.

5. The Market Manager certifies that the application, and the balance of the final paperwork, is complete and approved for payment.

After the state and local inspections are complete and the project is sent for payment the Certificate must still be within the 90 day validation period. If the Certificate 90 day period expires a second request will be processed by the Division of Taxation within 24 hours.

Interconnection and Inspections

Grid-connected systems installed with REIP funding require three independent review and approval processes:

1. The interconnecting electric utility must receive and approve an Interconnection Application.
2. A REIP final inspection may be scheduled as required.
3. After performing a REIP final inspection, local code officials must review and approve the system. A copy of the local electrical code inspection certificate (UCC certificate), and other necessary certificates as required, indicating approval of the system as installed, must be provided for final upfront incentive and REC processing.

The installer shall make professional efforts to design and install renewable energy generating systems in accordance with all applicable codes, standards, and REIP requirements. The installer shall bear responsibility for identifying and obtaining all relevant local, state, and federal permits for the system. Upon completion, the installer shall obtain all relevant inspections and approvals from the local jurisdictions and local electric utilities.

Utility Interconnection

All applicants for grid-connected systems must submit an Interconnection Application directly to the appropriate electric utility company. Interconnection applications are subject to review by the electric utility company and must comply with all utility interconnection requirements.

To ensure that a proposed renewable energy system is eligible for interconnection and net metering, all REIP upfront incentive applicants are encouraged to contact their local utilities *prior* to submitting an upfront incentive application to the REIP Market Manager. A copy of the signed Interconnection Application must be provided to the REIP Market Manager as a condition of processing the REIP upfront incentive check.

REIP Inspections and Quality Control

This section details requirements for system inspections and quality control processes. It is intended primarily for contractors as a technical guide. Specific technical requirements are provided in Appendix 3.

Required Inspections

It is the installer's responsibility to identify all applicable permits required for any proposed installation. For example, these may include local building and electrical permits, as well as other local, state, or federal permits in cases where the proposed system is to be located in special-use or environmentally sensitive areas. All applicable permitting authorities must review and approve the system.

For completed systems, a copy of the local electrical code inspection certificate, and other necessary certificates indicating approval of the system as installed, must be provided to the REIP as a condition of upfront incentive processing.

In the event that a local code inspection is performed prior to a REIP Inspection the REIP Program may be required to forward all REIP inspection reports to the property owner.

REIP Inspections

Installed systems must pass an REIP inspection, conducted by the REIP Inspector, prior to local code inspection and issuance of an upfront incentive payment and REC processing. If a system deficiency is found, the installer must correct the problem and request a REIP re-inspection. The goals of REIP inspections are to:

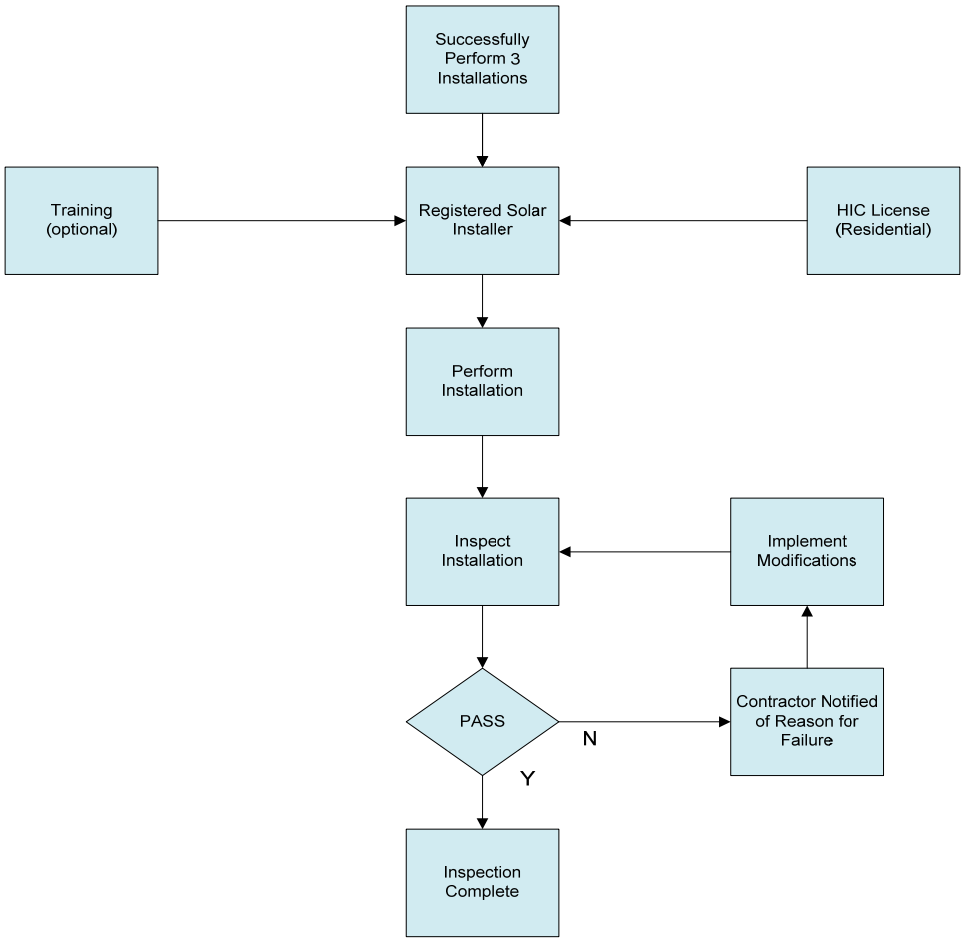
3. Ensure best design and installation practices are followed
4. Ensure systems meet the minimum requirements of the REIP
5. Verify consistency of installed systems with specifications provided to the REIP via upfront incentive application forms

Transition from Quality Control to Quality Assurance Process

Currently, 100% of systems installed through the REIP are inspected in a quality control (QC) process. The REIP Inspection protocols will transition from a Quality Control (QC) Program to a Quality Assurance (QA) Program, where a random sample of projects will be inspected, at ratios between 15% and 100%, depending on the type of project and the installer's inspection history.

This transition will take place during the 2009 program year. In order to facilitate an orderly transition, the Market Managers will provide 30 days notice to program contractors prior to transition. Until then, the REIP will inspect 100% of projects, as shown in Figure 4.

QC Program Inspection Process
(Figure 4)



Inspection Scheduling Process Protocols

In general, REIP inspections are scheduled as follows:

- Inspections are assigned, and files are forwarded, to an REIP Inspector within1-2 days after files are deemed to be complete.
- Initial contact with the customer (*if residential*) or installer (*if commercial*) is made by the inspection team within 3-5 days after the inspection is assigned.
- The inspection team schedules inspections 1-3 weeks in advance, preferably within 1 week, if schedules allow.
- Installers are notified, via email, of inspection results within 5-7 days of inspection. (And cc'd to njcepinspections@csgrp.com) During this window the installer may resolve any outstanding discrepancies with the REIP Inspector.
- Completed inspection reports are forwarded for final processing within 3-5 days after the inspection.

- Upon completion of the inspection process, inspection reports and project files are to be forwarded to the REIP upfront incentive processing team within 1-2 days.

REIP Inspection Responsibilities

This section lists fundamental program responsibilities that must be verified during field inspections. These responsibilities are divided into general requirements, provided below, and technology-specific requirements, provided in Appendix 3.

General Installation Requirements

This section lists applicable program requirements derived from current and past published program rules, processes, application forms, and other sources. The requirements listed below are derived from the Installation Requirements section of the Technical Worksheets.

1. *Verify that equipment (renewable technology, inverter, manufacturer, model, and quantity) qualifies for participation in the program and is as specified on the inspection work order form.*

   This function ensures the program collects accurate data regarding fielded equipment and that upfront incentives are properly calculated. The inspection work order form prompts inspectors to verify these items.

2. *Verify system operates properly.*

   If the system is not running, the inspector shall turn it on to verify proper operation considering the availability of sunlight at the time of the inspection. Systems that are locked and cannot be turned on would fail. This brings up the necessity of communicating with installers and/or customers during scheduling the need to be able to turn on the system, and of installers' and/or customers' responsibility to provide access during the inspection

In verifying equipment and operation of equipment the following minimum requirements in order to qualify for payment under the provisions of New Jersey's Clean Energy Program; proposed changes to the requirements will be considered, but they must be documented by the applicant or installation contractor and approved by the BPU. These requirements are not all-encompassing and are intended only to address certain minimum safety and efficiency standards.

Relationship of REIP Inspections to Local Electrical Inspections

Although there often may be overlap in the contents of inspections, the REIP Inspectors do not replace the role of local code officials (such as electrical or building inspectors), and their determinations do not supersede those of local code officials. There may be instances in which a renewable energy system that has been accepted by the local code official is not accepted by the REIP Inspector. In these cases, the REIP Inspector's determination affects only the system's status in the REIP application process.

The REIP intends to work with local code officials and the contractor community by providing resources and training to ensure the safety of all renewable energy generating systems installed under the program.

In the event that the local code inspection is performed prior to the REIP inspection, a copy of the results of the REIP inspection report will be forwarded to the property owner. In all instances where there is an egregious safety issue defined as bonding, grounding and/or over current protection issues, identified by the REIP Inspector, the REIP Inspector shall forward this information to the local code official.

Requesting a REIP Inspection

It shall be the responsibility of the installer to notify the REIP Market Manager when the system is ready for inspection. REIP inspections can be requested by installers only when the installer can attest that each of the following requirements has been met:

6. The Upfront Incentive Confirmation and Final Application form has been filed
7. All final application paperwork including, technical work sheet, upfront incentive application, site plan and any other required documentation shall incorporate all changes to reflect as-built conditions
8. The system is complete and operational

In addition the installer will be required to provide the BPU # of the relevant application and the identification of person making the inspection request. All communications regarding REIP inspections, including requests to schedule inspections and questions regarding inspection results, should be directed to:

By Email: NJCEPinspections@csgrp.com
By Phone: (732) 218-3412

Inspection Timeliness

Within 5 days of receiving an inspection request, the REIP will attempt to contact the system owner to schedule and complete a renewable inspection. All inspections will be scheduled with the owner; the installer will be notified when an inspection is scheduled. The aim is to schedule and complete all inspections within 10 business days after successfully contacting the customer.

Installer Presence during Inspections

It is recommended that the installer be present during all inspections in order to make minor modifications during the inspection, thereby avoiding repeat inspections. There are two cases in which the installer is **required** to be present during inspections:

- Inspections of systems greater than 10 kW
- Inspections which require special equipment beyond that normally carried by the inspectors (i.e., a 20-foot ladder) to safely access the array, roof, process equipment, or other locations

If the installer is not present during the renewable inspection, he or she may run the risk of requiring a follow-up inspection the cost of which may be charged to the installer.

Repeat Inspections

The REIP provides one repeat inspection performed by the REIP inspector at each site free of charge. Any further inspections of the same installation will be subject to a fee of $400 per additional inspection to be subtracted from the total upfront incentive amount.

Inspection Status

Within 10 days of performing an inspection an inspection status will be assigned. This status will be assigned as follows:

- PASS – The system status in the REIP application process has passed inspection and the system will be submitted and reviewed for final check processing.
- FAIL – The system status in the REIP application process has not met the necessary criteria as denoted in the inspection report and will require re-inspection. (NOTE: Should deficiencies arise during inspection; these deficiencies will be communicated to the installer. Should the installer provide remedies to resolve the deficiencies within the 10 day inspection window the inspection status will reflect this).

Upfront Incentive Payment Approval Process

After a project has received a local inspection, it will be submitted and reviewed for final check request approval. To process upfront incentive payments, once the REIP Inspection is passed, the following additional information must be provided to the REIP Market Manager:

1. A copy of the signed Electrical Code Inspection (“UCC”) Certificate and other applicable permits.
2. A copy of the complete utility Interconnection Agreement
3. A New Jersey Tax Certification Certificate (only for commercial, non-profit, farms or Sunlit projects)
4. A copy of the Home Performance Energy Audit (for residential projects only)

It should be noted that if Home Performance audit documentation is not provided, the incentive will be paid at a rate of $0.20 less that the incentive rate in effect at that time.

Assignment of Upfront Incentive Payment

Applicants designate their desired incentive recipient in Section B of the REIP Upfront Incentive Application Form. If an applicant wishes to change the incentive recipient after submitting the initial application, an amended and signed REIP Upfront Incentive Application Form should be submitted to the REIP Market Manager well in advance of requesting payment. The Market Manager will ensure the proper incentive amount is assigned by using the actual installed capacity as provided in the REIP inspection report.

Up-Front Incentive Payment Process

The goal of the REIP Market Manager is a 60 day turn-around from the date a check batch is processed and sent to the NJBPU for approval to the date the check is mailed to the incentive recipient.

Post Installation Procedures

Major System Changes

Customer/generators are required to provide NJCEP with information concerning major changes to generating systems. Major changes include:

- Changes in ownership of the system; e.g., with the sale of a property;
- Changes in the location of the system; e.g., the system is moved to a new property;
- Any changes to the rated capacity of the system;
- Changes of major system components, such as modules or inverters;
- Changes or replacements of components used to meter generation from the system, such as inverters or meters;

The major system change form is provided at http://www.NJCleanEnergy.com, and should be submitted to the REIP Market Manager.

Renewable Energy Certificates – Getting Started

Referral of Completed Projects to the GATS Administrator

After the later date of a completed local inspection, or the Interconnection activation date as provided by the local utility, the REIP team will refer completed projects to the PJM-EIS Generation Attribute Tracking System (GATS) Administrator, enabling the project or REC owner to establish a REC account for the purpose of documenting generation and trading RECs. The REIP team will also deliver instructions to the system owner on how to establish their REC account.

Establishing REC Accounts

Customers will be responsible for establishing and monitoring their accounts, verifying generation inputs, and trading RECs. Questions or issues with the REC platform should be directed to the GATS Administrator.

- **Customer/Generator Responsibilities -** After a generating system passes its final NJCEP inspection, the system is eligible to begin generating RECs. The REIP Market Manager sends the customer a letter announcing the project's final approval. This letter contains an attestation form and instructions for the customer to register for a trading account on the REC website. As an option, the customer may also enter into a contract with a REC Aggregator, who would represent the customer's system for REC trading purposes. In this case, the customer must also provide documentation of this agreement to the REC Administrator. (Systems installed outside of New Jersey may be eligible to earn Class 1 and Class 2 RECs provided the electricity is settled in the PJM wholesale market. Only solar electric systems installed in New Jersey are eligible to earn New Jersey SRECs.)

- **REIP Market Manager Responsibilities -** In addition to sending a signed confirmation letter and attestation form to the customer/generator, the REIP Market Manager also periodically sends an electronic report of the customer information and system specifications to the GATS Administrator. When the Market Manager receives forms, contracts, and other documentation from the customer, the Market Manager is responsible for permanently filing these forms and for forwarding copies to the GATS Administrator, enabling REC trading accounts to be updated as necessary.

- **GATS Administrator Responsibilities -** Upon receiving the electronic report of customer information and system specifications from the Market Manager, the GATS Administrator is responsible for entering such information into the REC database, and for producing and recording estimates of monthly and annual generation from the system. The GATS Administrator must verify that the customer/generator has submitted all required documentation and, if applicable, an aggregator contract. When these criteria are met, the GATS Administrator must link the database records with the customer account, and RECs can then be created and traded.

In the instance where should there be a dispute regarding the ownership of RECs the REC Administrator shall require the consent of the REC owner on record or a court order to transfer ownership of current and future RECs

Verification of Reported Generation

The Market Manager Inspection team may be responsible for supporting the GATS Administrator by conducting annual inspections of systems to verify reported generation. Generally, these inspections are limited to a sample of all systems, and the inspections themselves are limited to reading the meter and attempting to ascertain and report possible reasons for discrepancies between meter readings and expected generation. Upon receiving the inspection report from the Market Manager Inspection team, the GATS Administrator is responsible for tabulating and reporting to OCE the inspection results. Metering requirements for REC verification are given below:

(S)REC Metering and Monitoring Requirements

(Table 6)

CORE PROGRAM			REC FACILITATION
< 10 kW	**10-50 kW**	**> 50 kW**	**All**
(S)REC may be metered. Eligible to report based upon estimated performance If not estimated then production metered.	(S)REC Production metered. Accuracy standard of 5%	(S)REC production metered (ANSI C.12) Accuracy standard of 1%	(S)REC production metered (ANSI C.12) Accuracy standard of 1%
May be self reported to (S)REC Administrator	May be self reported to (S)REC Administrator	Automatically reported to (S)REC Administrator via electronic exchange	Automatically reported to (S)REC Administrator via electronic exchange

Energy Production System Metering for all Projects > 10 kW

All projects must report energy production data. For systems sized less than or equal to 10 kW this data can be obtained by determining estimated performance of a system or by installing an electrical meter, meeting ANSI C12.1-2001 standards, to verify system production.

For system greater than 10 kW, the production must be recorded by an electrical meter which has been certified to meet or exceed the applicable accuracy standards of ANSI C12.1-2001 or its equivalent. These meters are required to meet a standard of 1 percent accuracy for systems greater than 10 kW, and 5 percent accuracy for systems up to 10 kW.

All Program meters shall also be bi-directional and report net available/usable power for the purpose of REC creation (i.e. generation net of standby losses, transformer losses, and grid power utilized by the system for significant items such as tracking systems etc.).

Owners of systems equal to or larger than 10 kW are required to automatically report monthly net available/usable power to the REC Administrator via electronic data exchange. Owners of systems up to 10 kW may either automatically report or manually report monthly net available/usable power data to the REC Administrator.

Date of REC Generation

Generation of RECs from the renewable energy system may commence on the date of utility approval to operate/energize the system.

Access to Site for Inspections and Verification of Reported Generation

All customer/generators participating in the REC Program must provide access to NJCEP staff to re-inspect the system in case of major system changes and to verify estimated or reported production.

Creating RECs

Once a customer has registered and established an account on the REC website, RECs will be generated each month and deposited in the generator's account.

- For solar generators smaller than 10 kW, an engineering estimate may be used to calculate the monthly SREC generation.
- For solar electric systems that are larger than 10 kW, the REC website allows the generator to upload monthly meter readings and/or production information into the site.

Generation Reporting Requirements

(Table 7)

REIP PROGRAM		
LTE 50 kW	***> 50 kW***	***Grid Supply***
May be self reported to GATS Administrator	***Automatically reported to GATS Administrator via electronic exchange***	***Automatically reported to GATS Administrator via electronic exchange***

Trading RECs

Once RECs are in a generator's account, the generator can use an electronic bulletin board on the REC website or other means to let others know there are RECs for sale. Interested buyers can also make a request to buy RECs through the bulletin board or through other means. Buyers and sellers can then contact each other offline and execute a sale. Once a sale is made, the seller will use the website to transfer RECs to the buyer. Electricity suppliers will also use the website to retire RECs that have been used to meet their RPS requirements. Refer to the REC Administrator for more information.

Other REIP Processes

Dispute Resolution

There will be times when program participants are not in agreement with the Market Manager's decisions. The over riding objective of the REIP is to achieve participant satisfaction and to satisfactorily resolve any disputes.

Disputes, concerns or complaints that arise will be addressed initially by the Market Manager or Program Staff at the point of contact. Inquiries that can not be resolved at the Call Center level will be forwarded to the Market Manager for response.

The first level response shall be to document the date and nature of the complaint and the specific details to include contact information; name address phone number and/or email and parties or programs involved. The Market Manager will maintain all contact and status records. This will open the issue; next an appropriate action step must be completed for it to be resolved and closed. The Market Manager shall be responsible to delegate or take action to resolve the issue promptly.

The Market Manager shall be responsible to delegate or take action to resolve the issue promptly. In all cases, where the customer appeal is not consistent with the REIP Guidebook, the Market Manager will notify the Program Coordinator of the issue. Disputes that cannot be resolved nor have future action agreed to by all parties during initial contact will be brought to the attention of the Program Coordinator. The Program Coordinator will then investigate and respond directly to the customer. Disputes that cannot be resolved nor have future action agreed to by all parties during initial contact will be brought to the attention of the New Jersey Board of Public Utilities. The procedure for filing can be found at: www.state.nj.us/bpu/assistance/complaints.

Tax Considerations

Applicants should consult a tax professional regarding the eligibility of their installation for federal tax credits, treatment of depreciation, and the taxability of program upfront incentives received and RECs sold.

Disclaimers

Any questions on the REIP Guidebook, web site content, or program processes and procedures should be directed to the REIP Market Manager.

The REIP Market Manager endeavors to offer timely program updates, including policy changes and installation activity through the NJCEP website. Enabling policies concerning REIP program governance, funding, and related support originating from Orders issued by the New Jersey Board of Public Utilities can be found at www.bpu.state.nj.us. The REIP Market Manager does not distribute information about individual upfront incentive applicants without their consent.

BPU Office of Clean Energy Managed Renewable Energy Programs

Renewable Energy Program: Grid Connected

The OCE is in the process of developing a solicitation to provide incentives to large, greater than 1 megawatt (MW), grid connected renewable energy systems. The solicitation will be submitted to the Board for review and approval prior to release.

New Jersey Regional Anemometer

This program was included in the 2008 budgets as set forth in the Board's March 31, 2008 Order and OCE recommends continuation of the program in 2009. The purpose of the program is to enlist the assistance of New Jersey universities and colleges in building New Jersey's capacity for providing wind resource assessment services through:

1. the purchase and provision of anemometers (wind measuring instrumentation) and related services to colleges and universities, and
2. the service, maintenance, and redeployment of anemometers through colleges and universities with existing anemometers

Offshore Wind

The proposed Offshore Wind Meteorological Tower rebate program will provide rebates to eligible entities that install offshore meteorological wind towers in 2009. The purpose of the rebate program is to support the development of offshore wind facilities that are needed to achieve the Energy Master Plan goal of at least 1,000 MW of off shore wind by 2012.

Edison Innovation Clean Energy Manufacturing Fund

The Board has entered into an MOA with EDA to administer the Clean Energy Manufacturing Fund (CEMF). The CEMF will provide incentives for innovative clean energy technologies, including both energy efficiency and renewable energy manufacturing businesses intended to stimulate the clean energy industry in New Jersey. EDA has submitted a compliance filing which sets out program details that is included within the OCE compliance filing.

Edison Innovation Clean Energy Fund

The Board entered into an MOA with the CST dated September 17, 2008 to administer the Edison Innovation Clean Energy Fund. The fund will provide research and development grants to support renewable energy and energy efficiency companies entering or expanding clean energy technology products in New Jersey. CST has submitted a compliance filing, which sets out program details, that is included within the OCE compliance filing.

Appendix 1A
2009 REIP Program Forms and Resources

All current REIP forms are maintained on New Jersey's Clean Energy Program website at: http://www.NJCleanEnergy.com. REIP documents include:

1. REIP Program Guidebook
2. Frequently Asked Questions about the 2009 REIP Program
3. REIP Project Application forms
4. Technical Worksheets
    a. Solar
    b. Wind
    c. Sustainable biomass
    d. Fuel Cells
5. 10 Year Certification Document
6. Residential Load Calculator with Energy Star
7. Home Performance with ENERGY STAR® Energy Audit filing requirements and list of certified contractors

Appendix 1B
2009 REIP Application Eligibility Requirements Checklist

In order for a project application to be deemed complete and accepted by the REIP Market Manager team, the following documents must be completed:

1) Completed REIP Application with all required signatures and SSN / EIN
   a) 2007 - 2008 project applications that are eligible to receive 2009 funding must submit signed affidavit that they intend to move forward with new incentive
   b) Solar Projects greater than 50 kW must complete Sections A, C, D, E & F
2) Completed REIP Technical Worksheet (TWS) for applicable renewable technology
   a) Technical worksheet is filled out completely (solar, and biomass projects are capacity based incentives and the TWS must be filled out as required)
   b) All required attachments per the requirements of the Wind Technical Worksheet, which is performance based:
      i) Wind EPBB copies of the three wind maps showing wind speed at 50m
      ii) Wind EPBB pre-applications are mandatory for wind project applications, but may submitted either before or at the same time as the upfront incentive application
      iii) Wind EPBB overhead view showing 500 foot radius and height of all highest obstructions within that area
3) Information on the last 12 months' electric usage in kilowatt hours:
   a) Most recent electric bill showing kWh of 12 months of consumption
   b) Electrical load estimate using approved residential load calculator or calculations from a PE with an affixed seal
   c) If neither of the above is available, default maximum system size per residence size is prescribed below:
      i) Less than or equal to 2500 sf is limited to a 5 kW solar system or wind capacity equivalent to 6000 kWh annually
      ii) 2500 sf but less than or equal to 5000 sf is limited to 7.5 kW solar system or wind capacity equivalent to 9000 kWh annually
      iii) 5000 sf is limited to 10 kW solar system or wind capacity equivalent to 12,000 kWh annually
4) Warranty information for main system components noted on the applicable Technical worksheet
5) Site map detailing the location of the renewable energy technology, major system components and electrical tie in points
6) 10 Year Attestation Form for projects that receive the up front incentive
7) Copy of signed contract between customer and installer:
   a) All private sector applications must include a signed contract

   All public sector applications must include a resolution to bid with a signed contract within 180 days

Appendix 2

Renewable Energy Incentive Program
Approved Wind Turbines

MANUFACTURER	MODEL	MANUFACTURER	MODEL
Abundant renewable energy	ARE 110	Proven Engineering	WT6000
Abundant renewable energy	ARE442	Proven Engineering	WT15000
Bergey Windpower	BWC XL.1	Southwest Windpower	Skystream
Bergey Windpower	BWC EXCEL - R	Southwest Windpower	Whisper 100
Bergey Windpower	BWC EXCEL - S	Southwest Windpower	Whisper 200
EWP	Endurance	Southwest Windpower	Whisper 500
Enertech	E-48	Ventera	VT 10
Fuhrlander	FL600	Vestas	V15 1ph
GAIA Wind	11kW	Vestas	V15 3ph
Entegrity Wind Systems	EW15	Vestas	V17
Energie	PGE 20/35 1 phase	Wind Energy Solutions	WES 5
Energie	PGE 20/35 3 phase	Wind Energy Solutions	WES 18
Energie	PGE 20/50	Wind Energy Solutions	WES 30
Eoltec	Scirocco 6kW	Wind Turbine Industries (Jake)	23-10
Northern Power Systems	North Wind 100 (19m)	Wind Turbine Industries (Jake)	23-12.5
Northern Power Systems	North Wind 100 (20m)	Wind Turbine Industries (Jake)	26-15
Northern Power Systems	North Wind 100 (21m)	Wind Turbine Industries (Jake)	26-17.5
Proven Engineering	WT2500	Wind Turbine Industries (Jake)	31-20

Appendix 3A
Renewable Energy Incentive Program
Technical Requirements

Equipment Eligibility Requirements

All major system components must be new, and not have been placed in service at any previous site. Major system components include, but are not limited, to:

9. Solar electric (photovoltaic) modules
10. Wind turbine generators
11. Biomass conversion technologies
12. Fuel cell reformers and cells
13. Inverters
14. Transformers

Solar Electric Systems

All major photovoltaic system components must be Underwriters Laboratory ("UL") listed (or listed by another equivalent recognized testing lab) and comply with the requirements detailed in the technology-specific Technical Worksheets.

Solar lighting systems that are not connected to a building's electric distribution system are not eligible for REIP. While solar systems with a battery back-up system are eligible for incentive, the application must be a permanent installation located on the site of an eligible public utility ratepayer. Portable systems are not eligible for upfront incentives under the REIP.

Minimum Performance Design Threshold

To be accepted in the Renewable Energy Incentive Program, the default output of a solar electric system, as estimated and verified in accordance with program QC/QA guidelines, using PVWATTS, must be *at least* eighty percent (80%) of the default output of a reference design system (with no shading, southern orientation, latitude tilt, and other PVWATTS default de-rate parameters). Additionally, the output of each string must be at least seventy percent (70%) of the reference design system output. Systems expected to produce below eighty percent (80%) of the reference system design output or seventy percent (70%) string output will not pass the program inspection, will not receive a upfront incentive (if applicable), and will not be referred to the REC Administrator for REC account creation.

Reference design output can be determined by entering a system's DC rated capacity with southern orientation and latitude tilt into PVWATTS (version 1) at http://rredc.nrel.gov/solar/codes_algs/PVWATTS/. The comparative estimated output for a proposed system must include shading details, actual orientation and tilt, and any other expected variation from the PVWATTS default de-rate parameters. No array facing north of east or west is allowable unless the slope of the photovoltaic modules is less than five (5) degrees. All photovoltaic modules in a string must be in the same plane.

Wind Systems

All wind turbine systems must be approved by the Market Manager for use in New Jersey. The upfront incentive design for wind turbine systems is a performance based upfront incentive based on the expected performance of the system at the site. The Expected Performance Based Buy-down (EPBB) methodology provides greater upfront incentives to systems that have a higher expected annual kWh output. This approach calibrates the upfront incentives more closely to the goals defined in the Renewable Portfolio Standard and Energy Master Plan, which are based on energy output (kWh).

Attached to this guidebook is a current list of wind turbines eligible for upfront incentives under the Renewable Energy Incentive Program. This list can also be found at http://www.NJCleanEnergy.com.

Sustainable Biomass

Sustainable biomass facilities incorporating the following methods of electricity generation, and complying with all New Jersey Department of Environmental Protection air pollution control regulations outlined in the State of the Art Manual ("SOTA") are eligible for REIP upfront incentives:

- Biogas, including captured methane from animal waste or sewage treatment
- Digestion of sewage sludge
- Combustion, as long as all matter used directly as sustainable biomass fuel was cultivated and harvested in a sustainable manner in accordance with the state environmental or agriculture agency in the state in which the plant was grown
- Landfill gas (facilities of up to 4 MW are eligible, pending review of the incremental value of the project's environmental benefit)
- Combined Heat and Power (CHP), when feedstock comes from sustainable biomass. Projects receiving a REIP upfront incentive may also be eligible for a CHP incentive through the Pay for Performance energy efficiency program. More information is available at: http://www.NJCleanEnergy.com/ssb.

Any facilities that use municipal solid waste combustors, sludge incinerators, or mass burn do not qualify as Class I renewable energy generation facility in the state of New Jersey and will not receive upfront incentives under REIP.

Sustainable biomass-fueled generation facilities are required to obtain a determination of sustainable biomass from the NJDEP prior to applying for a REIP incentive. Requests for a sustainability determination should be sent to:

New Jersey Department of Environmental Protection
Office of Innovative Technology
P.O. Box 409
Trenton, NJ 08625

Upfront incentive applications for sustainable biomass projects will be evaluated based on the following three criteria:

1. Fuel Sustainability: Each project must document the sustainability of the fuel source. This required information includes the percentage of fuel input that is derived from a

certified, sustainable source. Landfill gas facilities should document that the methane fuel has a minimum availability of five years.

2. Close Loop Operational Process: Documentation must include a description of the operational process and the associated equipment. A functional use for any refuse by-products must be documented. Landfill Gas Facilities must describe current process/use of flare gas and document incremental benefits related to the proposed application and comply with all of NJDEP policies for ash management.
3. Proper Emission Levels: The project must meet the emission standards specified in SOTA. The REIP upfront incentive application will not be approved until permit documentation has been reviewed and found to be sufficient.

Fuel Cells

In addition to meeting all the requirements spelled out in the Fuel Cell Application Technical Worksheet, fuel cell energy systems must use a sustainable fuel source, such as landfill gas, to be eligible for REIP incentive. The fuel sustainability for this type of project must be evaluated by NJDEP.

System Metering

All systems greater than 10 kW must have metering capability that is readily accessible to the owner. The meter must be capable of displaying instantaneous and cumulative production. Inverters serving this function are sufficient. All projects greater than 10 kW funded with 2009 upfront incentives shall have a separate utility revenue grade meter that meets ANSI C.12 standards measuring the AC-kWh output of the renewable energy project; this meter shall be used to report system production for the generation of RECs.

Residential projects less than 10 kW approved under the 2009 REIP program or the 2008 CORE Program may utilize estimated performance calculations to determine production. If requested by the system owner, projects less than or equal to 10 kW may use a separate utility revenue grade meter measuring the AC-kWh output.

Appendix 3B
Renewable Energy Incentive Program
Quality Control Requirements

1. CODE REQUIREMENTS

1. The installation must comply with the provisions of the National Electrical Code and all other applicable local, state, and federal codes or practices.

The system must pass local electrical inspection which will be performed after the REIP Inspection. We accept as evidence of passing the submittal of the local jurisdiction's UCC certification, a copy of which must be provided for upfront incentive processing. This local inspection is performed after the REIP inspection. Program inspectors will continue to review projects for egregious safety issues, which shall be defined as bonding, grounding and/or over current protection issues, during inspections and may communicate possible issues to installers and/or customers on inspection reports.

2. All required local permits must be properly obtained.

Information on the local electrical inspection should be in the file in order for upfront incentive processing.

3. All required inspections must be performed (i.e., Electrical/NEC, Local Building Codes Enforcement Office, etc.). Note: In order to ensure compliance with provisions of the NEC, an inspection by a state-licensed electrical inspector is mandatory.

The system must have passed local electrical inspection which will be performed after the REIP Inspection. We accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which normally will have been received prior to upfront incentive processing. Program inspectors will continue to review projects for egregious safety issues, which shall be defined as bonding, grounding and/or over current protection issues, during inspections and may communicate possible issues to installers and/or customers on inspection reports. Other permits which may be required for an installation, such as building permits, etc., are the responsibility of the installer and will not be confirmed by the program inspectors.

2. INVERTER AND CONTROLS

1. The inverter and controls must be properly installed according to manufacturer's instructions.

Manufacturer's instructions might include statements about clearances, minimum and maximum input voltages, etc. Program inspectors interpret this to include a review of the system design using the inverter manufacturer's string sizing calculator, if provided.

2. The inverter must be certified as compliant with the requirements of IEEE 929 for small photovoltaic systems and with UL 1741.

UL 1741 is the UL test standard that is used for the listing of PV inverters, charge controllers, and other BOS equipment. It continues to be updated as all new

standards are over the first several years of implementation. UL 1741 incorporates the testing required by IEEE 929 and 1547 (frequency and voltage limits, power quality, non-islanding inverter testing), and includes both design (type) testing and production testing. In any event all program inverters are checked for anti-islanding by the program inspector.

While UL is specifically called out as a program standard, there are four nationally recognized testing labs that can test to UL 1741. These are UL, ETC, CSA, and TUL, and program inspectors will recognize any of these certifications on an inverter. Inspectors will also look for and confirm the term “utility interactive” on the product label starting in 2008.

3. *The system should be equipped with the following visual indicators and/or controls: On/off switch; Operating-mode setting indicator: AC/DC over-current protection; Operating status indicator.*

   Program inspectors will note deficiencies and communicate them to installers, but exceptions will not be grounds for failing inspections.

4. *Warning labels must be posted on the control panels and junction boxes indicating that the circuits are energized by an alternate power source independent of utility-provided power.*

   Warning labels are required under NEC but are often lacking in the field, even on installations that have passed local inspection. This program requirement provides program inspectors with specific authority to review compliance with safety labeling requirements. Program inspectors will review projects for warning labels on disconnects, inverters, the AC tie-in point, and other locations as required under the NEC.

5. *Operating instructions must be posted on or near the system, or on file with facilities operation and maintenance documents.*

   Program inspectors will check for operating instructions while performing inspections and will note any deficiencies on inspection reports. Deficiencies will not constitute a basis for failing inspections, however, due to the high probability that operating instructions may be located on file or elsewhere in a location not clearly visible to the inspector.

6. *Systems must have monitoring capability that is readily accessible to the owner. This monitor (meter or display) must at minimum display instantaneous and cumulative production.*

   Most modern inverters satisfy this requirement. If the inverter does not, program inspectors will accept any revenue-grade system-dedicated kWh meter that displays cumulative production and has a visible pulse (electronic meter) or spinning disk (mechanical meter) from which instantaneous production can be derived.

C. WIRE RUNS

1. *Areas where wiring passes through ceilings, walls, or other areas of the building must be properly restored, booted, and sealed.*

Program inspectors will enforce this program requirement at any point of penetration.

2. *Thermal insulation in areas where wiring is installed must be replaced to "as found or better condition". Access doors to these areas must be properly secured and sealed with gaskets.*

   Program inspectors will enforce this program requirement at any penetration point.

3. *All interconnecting wires must be copper.*

   Some provisions may be made for aluminum wiring; approval must be received from utility engineering departments prior to acceptance.

4. *Wiring connections must be properly made, insulated, and weather-protected.*

   The system must have passed local electrical inspection and we accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which normally will have been received prior to scheduling the inspection. Program inspectors will continue to review NEC requirements during inspections and will communicate possible exceptions to installers and/or customers on inspection reports.

5. *All wiring must be attached to the system components by the use of strain relief or cable clamps, unless enclosed in conduit.*

   The system must have passed local electrical inspection and we accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which normally will have been received prior to scheduling the inspection. Program inspectors will continue to review NEC requirements during inspections and will communicate possible exceptions to installers and/or customers on inspection reports.

6. *All outside wiring must be rated for wet conditions and/or encased in liquid-tight conduit.*

   The system must have passed local electrical inspection and we accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which normally will have been received prior to scheduling the inspection. Program inspectors will continue to review NEC requirements during inspections and will communicate possible exceptions to installers and/or customers on inspection reports.

7. *Insulation on any wiring located in areas with potential high ambient temperature must be rated at 90° C or higher.*

   The system must have passed local electrical inspection and we accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which normally will have been received prior to scheduling the inspection. Program inspectors will continue to review NEC requirements during inspections and will communicate possible exceptions to installers and/or customers on inspection reports.

8. *All wiring splices must be contained in UL-approved workboxes.*

   The system must have passed local electrical inspection which will be performed after the REIP Inspection. We accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which will be forwarded for upfront incentive processing. Program inspectors will continue to review projects for egregious safety issues, which shall be defined as bonding, grounding and/or over current protection

issues, during inspections and may communicate possible issues to installers and/or customers on inspection reports.

D. BATTERIES (IF APPLICABLE)

1. *The batteries must be installed according to the manufacturer's instructions.*

   Manufacturer's instructions might include statements about clearances, minimum and maximum input voltages, ventilation, etc. NJCEP program inspectors will review installations against manufacturer's instructions. Exceptions to these instructions will be noted and will constitute grounds for failure of the program inspection.

2. *Battery terminals must be adequately protected from accidental contact.*

   The system must have passed local electrical inspection which will be performed after the REIP Inspection. We accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which will be forwarded for upfront incentive processing. Program inspectors will continue to review projects for egregious safety issues, which shall be defined as bonding, grounding and/or over current protection issues, during inspections and may communicate possible issues to installers and/or customers on inspection reports.

3. *DC-rated over-current protection must be provided in accordance with the provisions of the NEC.*

   The system must have passed local electrical inspection which will be performed after the REIP Inspection. We accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which will be forwarded for upfront incentive processing. Program inspectors will continue to review projects for egregious safety issues, which shall be defined as bonding, grounding and/or over current protection issues, during inspections and may communicate possible issues to installers and/or customers on inspection reports.

TECHNOLOGY SPECIFIC REQUIREMENTS.

Technology - Solar

Solar Electric Module Array

1. *Modules must be UL listed and must be properly installed according to manufacturer's instructions.*

   Manufacturer's instructions might include statements about the maximum number of modules in series, provisions for mounting and grounding, etc. NJCEP program inspectors will review installations against manufacturer's instructions. Exceptions to these instructions will be noted and will constitute grounds for failure of the program inspection.

2. *The maximum amount of sunlight available year-round on a daily basis should not be obstructed.*

All applications must include documentation of the impact from any obstruction on the annual performance of the solar electric array. This analysis can be performed by using PVWATTS, which can be found at: http://www.NJCleanEnergy.com.

This should be reviewed upon initial application, and the relevant documentation should be supplied to the inspector with the work order form. In the event the supplied impact analysis is found to have left out materially significant information, the inspector may fail a job pending submission of a more accurate impact analysis.

3. *Verify tilt, orientation, and shading on each array.*

   This function ensures the program collects accurate data relevant to estimating system production. This function is performed by the REIP Market Manager, and is used for verifying compliance with minimum design standards (see B.3. below).

4. *To qualify for program upfront incentives, the solar electric system must adhere to a minimum design threshold, relative to the estimated system production using PVWATTS.*

   Solar electric array orientations require that the calculated system output must be at least 80% of the default output calculated by PVWATTS. Additionally, all individual series strings of modules output must be at least 70% of the default output calculated by PVWATTS.

   For building-integrated solar electric systems (i.e., part of the building envelope materials includes solar electric components), the estimated system output must be 40% of the default output estimated by PVWATTS.

   Inspectors will measure and record array tilt, orientation, and shading. Shading and its effect on annual system output will be analyzed with a Solar Pathfinder and the Solar Pathfinder Assistant software or Solemetrics Sun Eye, using an average of readings taken from the lower corners of the array, and the combined effect shall not reduce annual output to less than the defined percentage of the default for an optimally tilted and oriented system, as calculated by PVWATTS.

   All applications are subject to the 80% system/70% string threshold stated above. Building-integrated PV systems are subject to the 40% system threshold.

5. *System wiring must be installed in accordance with the provisions of the NEC.*

   The system must have passed local electrical inspection and we accept as evidence of passing the submittal of the local jurisdiction's UCC certification, which normally will have been received prior to scheduling the inspection. Program inspectors will continue to review NEC requirements during inspections and will communicate possible exceptions to installers and/or customers on inspection reports.

6. *All modules installed in a series string must be installed in the same plane.*

   Program inspectors will consider variation of less than or equal to 10 degrees in tilt and orientation to be acceptable.

Technology – Wind

Wind Turbine Generators

1. The wind turbine tower must be well-grounded and bonded in accordance with the provisions of the NEC and any other applicable codes.

2. Appropriate lightning protection and surge suppression must be installed in accordance with the provisions of the NEC and any other applicable codes.

3. The inspector will verify the turbine rotor must be clear of any obstructions within a 500’ radius and the hub height as specified under application.

Obstructions with in 500’ must not exceed a height of 30’ from the bottom of the swept area. (The swept area being the radial circumference from the hub location) In the event that any of the aforementioned requirements are not satisfied then the system owner/installer may take the following steps:

1. Perform a site assessment – this assessment would need to be performed by a program certified wind site assessor. Upon assessment the site assessment report would indicate modifications to the program wind calculator constants which would reflect site topography and obstructions.

2. Perform an engineering study which would capture wind speed data at a particular location and hub height over the course of a year
3. The program inspector will carry out an anti-islanding test procedure. During the course of this procedure it must be demonstrated that the wind turbine will reactivate and begin producing power.

Wind Anemometers

1. *An anemometer will be installed one rotor length below the swept area of the turbine*.

   The anemometer shall be mounted on a minimum 7’ long arm perpendicular to the tower. That will face the predominant wind direction at the turbine location based on the wind rose data.

2. *The output of the anemometer will have a data recording system.*

   The system must show instantaneous wind speed which will be captured over the course of one year. The data logging capacity should include enough memory to retain this one year of data. Data may be displayed in one of two measurement units: m/hr or m/s.

3. *The data recorder output must be transmittable*.

   Approved transmission methods may consist of a card reader, a dedicated land line or web based system that can provide reporting information on the system. System data must be available to a program representative, if requested.

Technology – Sustainable Biomass

1. *The type of feedstock will be verified.*

   The program inspector will verify the fuel used to power the facility.

2. *The fuel must be deemed to be sustainable*.

   The program inspector will request a copy of the New Jersey Department of Environmental Protection's determination of sustainability.

3. *The facility must possess all permits to operate*

   The program inspector will request a copy of the New Jersey Department of Environmental Protection's current operating permit as well as all other applicable permits.

4. *The facility must be metered for the production of Renewable Energy Certificates.*

   The program inspector will examine the metering arrangement to validate that the facility is metered for the correct production of Renewable Energy Certificates.

5. *The facility must possess all necessary program paperwork*

   The program inspector will request and review copies of site plan, equipment lists with detailed information on Make/model, serial numbers and descriptions.

Appendix 4
Renewable Energy Incentive Program
Reporting and Tracking

Reporting

On a weekly basis the Market Manager will provide Funding Cycle and Year to Date Budget Report, which lists the following information:

- Total budget approved for the funding cycle
- Total capacity block allocated
- The process for applicant projects that exceed the capacity block to reapply at the new incentive (as capacity block fills)
- Outstanding upfront incentive commitments
- Uncommitted funds
- Amount remaining from funding cycle after commitments

On a monthly basis at Renewable Energy Committee meetings the REIP Market Manager will produce reports that include monthly trends in activity including approvals, new applications, deactivations and complete projects. These reports will be supplemented with the latest budget report. A schedule of the Renewable Energy Committee meetings can be found at www.njcleanenergy.com/main/event-listings/clean-energy-council-committees/renewable-energy-committee-meeting/renewable-ene.

Budget Tracking

The Market Manager will track funding cycle and year to date program expenses against the overall annual program budget each month in the following categories:

- Total
- Administration and Program Development
- Sales, Call Centers, Marketing and Website
- Training
- Upfront Incentives, Grants, and Other Direct Upfront Incentives
- Upfront Incentive Processing, Inspections and Other Quality Control / Quality Assurance
- Performance incentives
- Evaluation and Related Research

This tracking will be maintained for the month to date actual activity as well as the year to date activity and will be expressed as a percentage of the year to date budget and the annual budget.

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