Agenda Date: 08/19/09
Agenda Item: 8B

STATE OF NEW JERSEY
Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
www.nj.gov/bpu

CLEAN ENERGY

IN THE MATTER OF FUNDING IN THE AMOUNT OF $20.6 MILLION FROM THE STATE ENERGY PROGRAM OF THE AMERICAN RECOVERY AND REINVESTMENT ACT FOR COMPETITIVE GRANTS INVOLVING INNOVATIVE ENERGY EFFICIENCY AND RENEWABLE ENERGY PROJECTS BY STATE ENTITIES

DOCKET NO. EO09060470

(SERVICE LIST ATTACHED)

BY THE BOARD:

The Grant Program "Innovation in Energy Efficiency and Renewable Energy – Public Entities" ("Grant Program" or "Program"), as authorized under N.J.S.A. 26:2C-37 et seq. and 26:2C-45 et seq., and the New Jersey Appropriations Act for fiscal year 2010, L. 2009, c.68, is designed to provide grants from funding through the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 ("ARRA"). The Grant Program is intended to provide grants to support the energy projects of State Departments, State Agencies, State Authorities, State Colleges and State Universities (collectively, "State Entities") that utilize innovative renewable or energy efficiency technologies or innovative applications for renewable energy applications and energy efficiency projects.

New Jersey's State Energy Program ("SEP") was awarded $73,643,000 from ARRA to support clean energy efforts in the State. A majority of New Jersey's share of the ARRA funds, $47 million, is aimed at the private sector. These funds will be leveraged with private dollars in order to maximize investment in energy efficiency, renewable energy projects and job creation. Of the remaining ARRA funds, $20,643,000 will support State government's clean energy activities undertaken by State Entities through this Grant Program.

The primary goals of this Program are to: reduce the amount of greenhouse gases produced to meet the State's electricity needs, support the goals of the State's Energy Master Plan ("EMP"), provide funds that will encourage the creation of green collar jobs in the State, and further the goals of ARRA and the EMP. The EMP may be found at: http://nj.gov/emp/.

Technologies that qualify for this Program include: wind energy, solar energy, biofuels, hydro energy, energy efficiency, geothermal, or energy storage applications that are used to reduce the intermittency of renewable energy technologies.

On July 6, 2009 the Board of Public Utilities ("Board") issued a Public Notice of Grant Availability ("Solicitation"), which sought proposals requesting funding for energy projects that would clearly further the goals of the Grant Program. This solicitation was approved by the Board on July 1, 2009, and reflects direction and input from the Governor's Task Force on ARRA. The Solicitation stated the eligibility qualifications that applicants would have to meet to be considered for a grant under the program. The basic eligibility qualifications were:

1. Projects must be able to commence expeditiously upon receipt of the Notice of Award Letter and execution of the Grant Agreement and must be able to begin construction within 12 months;
2. Projects must use an innovative technology or an innovative application of a technology that furthers the goals of the SEP; and
3. Projects must have the ability to create jobs and reduce greenhouse gas emissions.

In addition, applicants were required to certify that ARRA Grant funds will be used to **supplement** (add to) existing funds, and will not **supplant** (replace) funds that have been locally allocated for the same purpose.

A Grant Evaluation Committee ("Committee"), consisting of representatives from: the Board, New Jersey Economic Development Authority, the Governor's Office of Economic Growth, the Commission on Science and Technology, and the Treasury Office of Energy Savings, was designated to review the proposals and rank them based on the criteria contained in the Solicitation.

In addition to the basic eligibility qualifications listed above, the Solicitation stipulated five specific criteria that the Committee would utilize to evaluate and rank proposals in order to determine which proposals merited funding under the Program. Committee members utilized the following criteria to evaluate and rank the proposals:

1. The Project's ability to commence work quickly and begin construction within twelve (12) months from the date of Notice of Award Letter and execution of the Grant Agreement;
2. The use of an innovative technology, or an innovative application of a technology that furthers the goals of the SEP;
3. The ability to create jobs;
4. Reductions in greenhouse gas emissions; and
5. The amount of energy created or saved.

In order to ensure that there was no communication between members of the Committee and the applicants, Board Staff, who did not serve on the evaluation committee, acted as Committee Facilitators ("Facilitators") to answer any questions that either the applicants or the Committee had about this Grant Program process or the proposals. In addition, the Facilitators were responsible for distributing the proposals to the Committee, receiving the Committee's recommendation and distributing that recommendation to the Board for review.

The deadline for the submission of proposals was 5:00 p.m. on August 7, 2009. In response to the Solicitation, the Board received 64 proposals that requested $226,952,200 in grant funding. The Committee met to discuss its individual evaluations and to rank the proposals and make its recommendation to the Board as to which of the applicants should receive grant funding.

Each member of the Committee reviewed[1] each proposal and scored it based on the above five criteria. After the Evaluation Committee members scored each proposal, the scores of each committee member were then combined and averaged. The proposals were then ranked from highest to lowest scores and the Evaluation Committee determined to make a final recommendation that the top seven ranked proposals should be awarded funding as follows:

1. New Jersey Meadowlands Commission (NJMC) – Landfill Solar Project, in the amount of $8,500,000;
2. New Jersey Institute of Technology (NJIT) – Residence Hall Energy Efficiency/Renewable Energy Upgrade Project, in the amount of $1,675,084;
3. William Paterson University (WPU) – Smart Buildings/Energy Management System Project, in the amount of $1,120,000;
4. Richard Stockton College (Stockton) – Solar Thermal/Solar Photovoltaic and Demand Side Management Project, in the amount of $3,464,599;
5. Rutgers Office of Research & Sponsored Programs (RORSP) – Eco Complex – Gas boiler Retrofit Project, in the amount of $63,100;
6. New Jersey Transit (NJT) – Solar Photovoltaic Project in Kearny, in the amount of $4,320,217; and
7. Atlantic City Convention Center and Visitor's Authority (ACCVA) – Wind Turbine Generator, in the amount of $1,500,000.

Summary of Proposals Recommended for Grant Funding

1. New Jersey Meadowlands Commission (NJMC) – Landfill Solar Project

The NJMC is a zoning and planning agency for a 30.4 square mile area along the Hackensack River covering parts of 14 municipalities in Bergen and Hudson Counties. The NJMC proposal is for a solar project on its 1-A landfill, that it expects will utilize photovoltaic crystalline technology in conjunction with non-penetrating foundations designed for landfill application. This project is expected to generate 5,570,000 kwh of electricity annually when completed. Additionally, NJMC expects this project to save $389,000 annually from displacing fossil fuel generation and help avoid 4,000 tons of CO_2 emissions per year. Further, this project is expected to create 80 jobs during its construction. The NJMC estimated that the project will take nine months to complete and will be placed in commercial operation by the end of the second quarter of 2010.

Both the scale of the NJMC's project, as well as its innovative use of technology to make beneficial use of property that would otherwise have limited usefulness, impressed the Evaluation Committee. Finally, the fact that the NJMC expects to complete this project within nine months also influenced the Evaluation Committee's determination to recommend that this proposal be awarded funding by the Board.

2. New Jersey Institute of Technology (NJIT) – Residence Hall Energy Efficiency/Renewable Energy Upgrade Project

NJIT is a public research university located in Newark. NJIT's proposal is for an energy efficiency and renewable energy upgrade of its Oak Residence Hall (ORH). Facilities in ORH are generally old and inefficient, which results in a significant usage of energy. NJIT plans to utilize an innovative mix of technology to upgrade this building. This technology includes:

[1] Two members of the Evaluation Committee recused themselves from evaluating the one proposal submitted by New Jersey Economic Development Authority.

1) Demand based controls; 2) Solar water heating; 3) Solar photovoltaics; 4) Regenerative elevator technology; and 5) Energy efficient lighting (T-5 fluorescent technology).

The upgrade of ORH with this technology is expected to generate/save 765 mwh of electricity annually. In particular the demand based controls and solar water heating will greatly reduce the amount of energy used in this building. The new demand based controls are expected to improve the efficiency of the building's heating and air-conditioning by 10-15 percent. Additionally, the solar water heating system will become the building's primary source of hot water, displacing gas heat. NJIT stated that this project will create 16 jobs and should be completed in 38 weeks.

The Evaluation Committee decided to recommend that the Board award NJIT funding for this project because it believed that it offered an innovative mix of different technologies and a "Whole Building Approach" that would significantly reduce energy consumption in this dormitory. Further, the Evaluation Committee believed that the 16 jobs the project will create, along with a relatively short project duration from the time of the grant award, well exceeds the criteria that it can be completed quickly and create jobs.

3. William Paterson University (WPU) – Smart Buildings/Energy Management System Project

WPU is a public university located in Wayne. WPU's Smart Building Project will install an Energy Management System (EMS) that will utilize smart technology to control existing equipment to lower the electrical and gas consumption of four buildings on the university's campus. This project will save 1,230,685 kwh annually with a reduced peak of 1,380kw, resulting in annual savings of $192,862. The EMS will also monitor the incoming power into each building and shed unnecessary energy loads. In addition, old inefficient motors will be replaced with new premium efficient motors with variable frequency drives. The integration of power metering and the EMS will help regulate the university's impact on the utility grid during times of highest demand. This project will create or save 25 jobs and should start about four weeks after execution of the grant agreement. WPU expects that this project will be completed within eight to ten months after construction begins.

WPU chose the four buildings to be converted into smart buildings because they were the most energy inefficient buildings on the school's campus and provided the greatest potential for energy efficiency gains. The EMS system will measure how much power is being consumed by the buildings and constantly adjust the building's equipment and lights to only use what is necessary to maintain an optimal indoor environment. In addition, the EMS will log and graphically display the history of each building's temperature, humidity and energy consumption for quick analysis and troubleshooting of each building's energy performance. Moreover, the EMS will utilize a scheduling strategy that will accurately zone each of the spaces of the buildings and control the Heating, Ventilation and Air Conditioning (HVAC) to be on only when that space is scheduled for use, which will lower peak demand by 10-15 percent.

The committee selected this project because the total energy saved was very cost- effective and utilized the "Whole Building Approach" for four buildings. This approach for smart buildings will also address peak load linking energy efficiency and demand response building-wide.

4. Richard Stockton College (Stockton) – Solar Thermal/Solar Photovoltaic and Demand Side Management Project

Stockton is a public liberal arts and professional studies institution located in Galloway Township. Stockton has proposed a Solar Thermal, Solar Photovoltaic (PV) and Demand Side Management Project that will generate/save 668,775 kwh of electricity and 10,287 therms of gas annually. Stockton's project will install Solar Photovoltaic panels on canopies over parking stalls. Stockton's whole building approach is reflective of the goals of New Jersey's Energy Master Plan. The electricity generated from this solar installation will be used by local buildings and interconnected to the local utility for grid input if it is not needed on campus. In addition, solar hot water heaters will be installed in campus housing and the oldest housing building on campus will be equipped with remote HVAC controls to better facilitate energy management. Further, Stockton intends to re-invest the revenue from the 428 kw solar PV installation annually in order to expand it, so that a total of 1,628 kw of solar generating capacity will be in place after 15 years. Stockton can begin this project in four months and complete it in eight months. This project will create seven jobs.

The committee selected this project because of the unique design of the solar combined with a "Whole Building Approach" and a combination of technologies. In addition, the reinvestment of the revenues to generate additional energy efficiency savings was innovative.

5. Rutgers Office of Research & Sponsored Programs (RORSP) – Eco Complex, Gas Boiler Retrofit Project

RORSP is a unit of Rutgers University that advises and assists members of the Rutgers Community who are engaged in scholarly and creative activities. RORSP has proposed a gas boiler retrofit that will save 21,200 therms of gas annually, which would result in annual savings of $27,500. RORSP plans to install burners on boilers that will enable the utilization of carbon-neutral landfill gas for a majority of the Eco Complex office's heating needs. The technology that RORSP plans to use to retrofit the boiler is an innovative patented design from CPL Systems, Inc. This technology will eliminate the incomplete combustion that occurs with typical burner designs that have been modified for landfill gas and allows for complete combustion of low BTU gas. The retrofit will allow the boilers to utilize the landfill gas for approximately 80 percent of their operating time, reducing the use of natural gas. The burner design is innovative in that it slows the airflow over the burner tips to avoid blowing the flame away from the burner orifice. RORSP can commence this project 60 days after notice of award and complete it 90 days after notice of award. This project will require 260 hours of work for contractors/technicians. This project utilizes landfill gas for heating purposes, whereas landfill gas in most cases is used for electric generation.

6. New Jersey Transit (NJT) – Solar Photovoltaic Project in Kearny

New Jersey's public transportation corporation is one of the largest electricity users in the State. NJT proposes a solar photovoltaic project that will be installed on the roof of NJT's maintenance facility in Kearny and generate 1.1mw of electricity. All of the electricity generated will be utilized at the facility. The proposed photovoltaic system will include a measurement and reporting sub-system that will report exactly how much electricity the system generates on a real time basis. This project would be completed by competitive procurement process, which will take three to four months. This project can be completed six to twelve months from award of contract and will create 99 jobs.

7. Atlantic City Convention Center & Visitor's Authority (ACCVA) – Wind Turbine Generator

ACCVA, a state entity created pursuant to N.J.S.A. 52:27H-31, proposed developing a 1.5 megawatt wind turbine directly behind the Convention Center that would generate 2,822,882 kWh annually and enable ACCVA to reduce its net electric peak demand from the grid. The proposed wind project is in addition to ACCVA's significant energy efficiency upgrades and their two mw solar array, the largest single roof mounted solar array in the country. This project will assist in making the ACCVA a green model for other convention centers and will assist the Board in advancing the Energy Master Plan "Whole Building" review process for commercial buildings. Additionally, the energy generated from this wind turbine will produce $338,754 in reduced energy costs. This project would commence within 12 months of the issuance of the award letter and be completed 16 months after the award grant. The turbine would be mounted on a 75 meter hub height tubular tower. The tower foundation will be generally constructed in a 40 foot octagonal reinforced concrete cap with a 40 foot diameter circle composed of steel piles. This project would create 11 jobs. This project was the top ranked wind-energy project submitted to the Board for consideration.

The proposals recommended by the Evaluation Committee are all highly meritorious because they meet and exceed the evaluation criterion laid out in the Board's solicitation. 64 project proposals were submitted for consideration totaling more than $200M in requested funding. Although only the top seven ranked proposals will receive funding, this is due to the limitation on the amount of funds available.

Findings and Conclusions

The Board **FINDS** that the seven entities recommended by the Evaluation Committee listed above have met the Grant Program criteria and are qualified to receive grant funding subject to compliance with the requirements listed in the Solicitation. Further, the Board **DIRECTS** Staff to verify the budget projections contained in the proposals with the applicants to ensure that they are accurate. In the event that an entity that has been awarded funding is unable to proceed with its project, or is found ineligible to receive funding, the Board **FINDS** that grant funding will be made available to the other applicants based on their project's ranking on the Committee's evaluation list and the Board's approval. The Board also **DIRECTS** Staff to reach out to those applicants who were not awarded funding under this process and make them aware of other funding opportunities for which they may be eligible after this Order has been signed and those applicants who have been awarded funding have been notified. This outreach should not raise an issue pertaining to supplementing or supplanting funding because the outreach will be specific to those applicants who have not been awarded grant funding within this proceeding. The Board **APPROVES** the recommendation of the Committee and **HEREBY AUTHORIZES** Grant Funding awards to the following projects in the specified amounts:

1. New Jersey Meadowlands Commission (NJMC): Landfill Solar Project - in the amount of $8,500,000;
2. New Jersey Institute of Technology (NJIT): Residence Hall Energy Efficiency/Renewable Energy Upgrade Project - in the amount of $1,675,084;
3. William Paterson University (WPU): Smart Buildings/Energy Management System Project – in the amount of $1,120,000;
4. Richard Stockton College (Stockton): Solar Thermal/Solar Photovoltaic and Demand Side Management Project – in the amount of $3,464,599;
5. Rutgers Office of Research and Sponsored Programs (RORSP): Eco Complex Gas Boiler Retrofit Project – in the amount of $63,100;

6. New Jersey Transit (NJT): Solar Photovoltaic Project in Kearny – in the amount of $4,320,217; and
7. Atlantic City Convention & Visitor's Authority (ACCVA): Wind Turbine Generator – in the amount of $1,500,000.

The Board's award of grant funding in the proceeding is subject to:

1 The Board's access to the approved $20,643,000 in ARRA funds, in accordance with the applicable Federal requirements; and
2 The execution of a Grant Agreement with the entities that have been awarded grant funding in this proceeding.

Finally, the Board **DIRECTS** Staff to work with the Department of Treasury and the appropriate Federal officials to prepare and execute the proper Grant Agreements with those entities that have been awarded grant funding in this proceeding. The Board **HEREBY AUTHORIZES** President Fox to execute the Grant Agreements consistent with this Order and with federal and state requirements for such grant agreements.

DATED: 10/26/09

BOARD OF PUBLIC UTILITIES
BY:

JEANNE M. FOX
PRESIDENT

FREDERICK F. BUTLER
COMMISSIONER

JOSEPH L. FIORDALISO
COMMISSIONER

NICHOLAS ASSELTA
COMMISSIONER

ELIZABETH RANDALL
COMMISSIONER

ATTEST:

KRISTI IZZO
SECRETARY

I HEREBY CERTIFY that the within document is a true copy of the original in the files of the Board of Public Utilities