



Agenda Date: 5/8/19
Agenda Item: 8A

STATE OF NEW JERSEY
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, New Jersey 08625-0350
www.nj.gov/bpu/

CLEAN ENERGY

IN THE MATTER OF THE CLEAN ENERGY PROGRAM) ORDER
AUTHORIZATION OF COMMERCIAL AND)
INDUSTRIAL PROGRAM ENERGY EFFICIENCY)
INCENTIVES EXCEEDING \$500,000 – HUDSON)
COUNTY IMPROVEMENT AUTHORITY) DOCKET NO. QO19030376

Parties of Record:

Norman Guerra, Hudson County Improvement Authority
Stefanie A. Brand, Esq., Director, New Jersey Division of Rate Counsel

BY THE BOARD:

The New Jersey Board of Public Utilities ("Board" or "BPU") through its New Jersey Clean Energy Program ("NJCEP") includes several individual Commercial & Industrial ("C&I") Energy Efficiency ("EE") Programs targeting the commercial and industrial market segments. Eligible applicants may receive rebates for a portion of the cost for installing energy efficient technologies such as lighting, HVAC, and other energy conservation measures. Incentives are also available for projects involving Distributed Energy Resources ("DER"). All proposed C&I EE financial incentives and rebates exceeding \$500,000 require explicit Board approval. In the Matter of the Comprehensive Energy Efficiency and Renewable Energy Resource Analysis for the 2009 through 2012 Clean Energy Program -- Revised 2012-2013 Programs & Budgets - Revised Rebate Approval Process, BPU Docket No. EO07030203, (May 3, 2013).

The Pay for Performance – New Construction ("P4P–NC") Program promotes high performance buildings that achieve 15% or more energy cost savings than buildings built to the current energy code. This program links incentives directly to energy savings and includes a commissioning component to ensure that the estimated savings levels are achieved. Incentives are released upon satisfactory completion of three milestones.

By this Order, the Board considers the application of Hudson County Improvement Authority in Secaucus, New Jersey, submitted on June 8, 2017 under the Fiscal Year 2017 ("FY17") P4P–NC Program pursuant to the Energy Efficiency and Renewable Energy Program Plan Filing for FY17 dated June 29, 2016. The project is located at 1 High Tech Way, Secaucus, New Jersey. The applicant requests a total financial incentive of \$581,310.30 for a project that will cost \$20,610,932.00.

This application covers the installation of a wide variety of energy efficiency measures as part of construction of the New High Tech High School in the Hudson County Schools of Technology district, including:

- Window and glass door glazing;
- Wall insulation;
- Roof insulation;
- Floor slab insulation;
- Insulated doors;
- Interior LED lighting;
- LED lighting in parking garage;
- Exterior LED lighting;
- Daylight dimming controls for lighting;
- Occupancy sensors for lighting;
- HVAC upgrades, including:
 - Ground source heat pumps;
 - Direct expansion variable air volume ("VAV") units; and
 - Packaged rooftop units;
- A high efficiency water cooled chiller;
- A high efficiency hot water boiler;
- Demand control ventilation in the parking garage;
- A high efficiency hot water heater;
- Low flow faucets and shower heads;
- Fan cycling for geothermal heat pumps;
- Demand control ventilation in gym, auditorium, and cafeteria; and
- Temperature based demand control ventilation in the kitchen.

The estimated first incentive, awarded after the approval of an energy reduction plan, is \$41,770.80. The estimated second incentive, for completed installation of the system, is \$417,708.00. The estimated third incentive, granted after acceptance and confirmation of required performance threshold data, is \$121,831.50. These incentive amounts are within entity cap guidelines. Annually, the project is anticipated to save 5,467 kWh of electricity and 48,848 therms of natural gas. The project will also reduce annual peak demand by 56.7 kW. The proposed project will have an estimated annual energy cost savings of \$42,168.49. The payback period without incentives is 96 years; when factoring in the incentives, the payback period is reduced to 82 years.

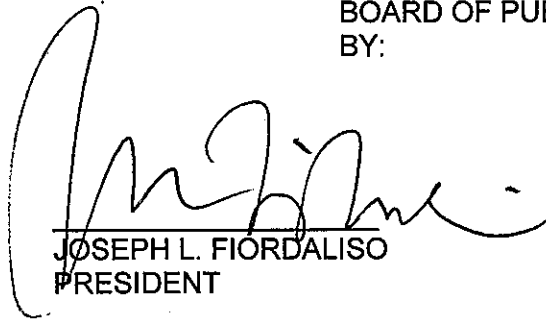
TRC Environmental Corporation, the Program Manager engaged by the Board to manage the NJCEP P4P-NC program, attested to the accuracy of certain information regarding the project and that the project application adheres to the current terms and conditions of the program. Further, TRC, in its role as the NJCEP Program Administrator, submitted its certification that the incentives were calculated in accordance with the program's policies and procedures, the listed amounts are the true and accurate estimated incentives for which the applicant is eligible, and the documentation supporting estimated energy savings inputs was located, reviewed, and made available to calculate the rebate amounts as required by the program's policies and procedures. Based on these certifications and the information provided by the Program Manager and Program Administrator, Board Staff recommends approval of the above-referenced application.


The Board **HEREBY ORDERS** the approval of the aforementioned application for the total estimated incentive amount of \$581,310.30 for Hudson County Improvement Authority and **AUTHORIZES** issuance of a standard commitment letter to the applicant identified above, setting forth the terms and conditions of this commitment.

The effective date of this Order is May 18, 2019.

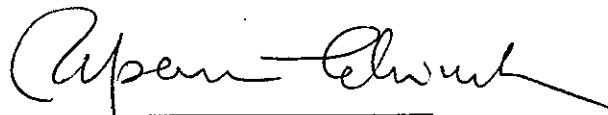
DATED: 5/8/19

BOARD OF PUBLIC UTILITIES
BY:


JOSEPH L. FIORDALISO
PRESIDENT


MARYANNA HOLDEN
COMMISSIONER


DIANNE SOLOMON
COMMISSIONER


UPENDRA J. CHIVUKULA
COMMISSIONER

ATTEST: 
AIDA CAMACHO-WELCH
SECRETARY

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

**Statement of Commissioner Bob Gordon
Regarding Agenda Item 8A, BPU Board Meeting of May 8, 2019**

Re: I/M/O the Clean Energy Program Authorization of Commercial and Industrial Program Energy Efficiency Incentives Exceeding \$500,000 – Hudson County Improvement Authority, Docket No. QO19030376

While the goals of this project are laudable, namely, the development of a learning environment that showcases sustainability and efficiency, the application of new technologies such as geothermal heat pumps and the reduction of natural gas consumption, I am compelled to vote against this application.

At a time when this Board is advancing major renewable energy initiatives—all financed with funds provided by ratepayers—I believe we need to be very selective about the way we add to that burden. The potential financial impact of the incentive on a given project must be a critical factor in any decision to make use of Clean Energy funds. As I understand the original objectives of the Clean Energy Program, the incentives were meant to make the difference between financially marginal projects and those that are financially viable. The funds were meant to “tip the scales” so that developers would undertake environmentally beneficial projects that otherwise would not satisfy their financial criteria. I believe the Board should establish a financial requirement to help advance this goal.

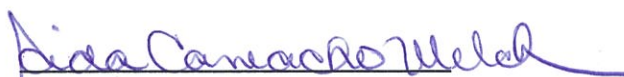
In my opinion the use of Clean Energy Funds for the HCIA project is inappropriate. If additional funding is required, the money should be obtained through grant programs that are not supported by ratepayers. The funding does not have a critical impact on financial viability. We are told that the application of P4P funds reduces the payback for the project from 96 years to 82 years. In the private sector, any chief financial officer who proposed funding a capital project with an 82 year payback would be dismissed. The only benefit of the Clean Energy grant is to reduce the sponsor’s funding requirement by 2.8 percent.

I believe these funds can be better employed on a project where they can make a real difference. For that reason, I vote no.



ROBERT M. GORDON
COMMISSIONER

ATTEST:



AIDA CAMACHO-WELCH
SECRETARY

IN THE MATTER OF THE CLEAN ENERGY PROGRAM AUTHORIZATION OF COMMERCIAL
AND INDUSTRIAL PROGRAM ENERGY EFFICIENCY INCENTIVES EXCEEDING \$500,000 –
HUDSON COUNTY IMPROVEMENT AUTHORITY

DOCKET NO. QO19030376

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March 14, 2019

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New Jersey's Clean Energy Program
c/o TRC Energy Services
900 Route 9 North, Suite 404, Woodbridge, NJ 07095

Attn: Alex Witzl

Re: P4P NC 47204
Hudson County Schools of Technology

Dear Mr. Witzl,

This letter is in response to your email of February 13, 2019 in regard to the above referenced project.

The Hudson County Schools of Technology is a unique school district, which has a core mission to offer diverse learning opportunities and inspiring creative independent thinking. The High Tech High School was envisioned as both a teaching facility and a teaching tool. It has been designed and constructed as a showcase of sustainability and energy efficiency.

The programming and budgeting for the school was executed by the school district with assistance from the Hudson County Improvement Authority and a team of consultants, including Mast Construction, which served as the Owners representative. The process largely followed the Design-Build program established by the NJ Schools Development Authority, which uses a design team to prepare "bridging documents" which define the project scope. There were several iterations of the project scope and budget before the final schematic plans were approved. These were then bid to design-build teams to provide construction documents and execute the project.

The desire to incorporate green building concepts into the project was driven by the core mission of the school district. The school district was and continues to be committed to designing a high performance, environmentally sustainable campus which connects, enhances and encompasses the community. Their directives as per the RFP included the following:

- *Improve indoor air quality that contributes to a healthy and productive learning environment.*
- *Maximize renewable energy sources such as geo-thermal heating and cooling, solar panels, wind-generated turbines, heat-island reducing green roofs and increasing natural day-lighting.*
- *Environmentally sensitive by minimizing the amount of greenhouse gases emitted, and minimizing waste water by utilizing water efficient landscaping, low-volume flush toilets and waterless urinals.*

- *Engage students in unique educational opportunities through the Sciences of Environmental Stewardship, including organic learning gardens with composting, recycling programs and water resource ecological systems.*
- *Attain LEED (Leadership in Energy and Environmental Design) Gold Certification.*

By embracing a sustainable school-wide campus, the District can help protect the environment and prepare children to enter a better world in which to learn, live, earn and grow. Ultimately, the district will save millions of dollars in reduced operating costs all while helping to expand the educational opportunities available to its students. The school will present itself as a teaching tool representing environmental sustainability with spaces that will support the evolving curriculum of Project Based Learning. The facility will be a teaching resource for the school, as well as a location for county-wide events during non-school hours. It is the District's objective to have the design of the new school incorporate as much Green and sustainable design practices as possible and to integrate those systems as part of the student's everyday experience.

So as you can see from the above, the decisions on incorporating energy efficiency measures were not based just on economic payback criteria. The financial litmus test was to bring the project in under budget. The final program created 348,090 square feet of conditioned space, and a parking garage of 126,948 square feet. With a total construction cost of \$147 Million, the project cost compares favorably with other SDA projects around the state, which range from \$350 to \$450 per square foot.

In regard to the baseline and proposed costs, the values presented in the ERP tables represent our best judgment of the costs. The baseline costs are based on RS Means Costworks software, previous experience and/or contractor quotes, as appropriate. The proposed costs are taken directly from the schedule of values submitted by the contractor and reviewed by the project design professionals.

The methodology of evaluating the payback of every energy conservation measure in isolation makes tremendous sense when performing an energy retrofit. However, in new construction, a line by line analysis is much more complicated. The proposed wall construction, glass selection, etc. are chosen by the design team for superior energy efficiency, but also for durability, appearance, and other factors. So the cost differential between the baseline and proposed cannot be attributed 100% to the energy efficiency. However, for us to represent some percentage of the actual costs would be arbitrary. We have therefore presented the most accurate valuations for which we have basis.

Another factor in new construction is that with an integrated design approach, the effects of design decisions on specific items impact other items. By improving the thermal envelope and the lighting power density, the size of the HVAC systems can be reduced, which in turn reduces the electrical service and distribution system costs. So evaluating each line item separately does not present a true picture of the project economic choices.

In regard to the geothermal heat pumps, the proposed system provides a 67% reduction in the consumption of natural gas. The payback in terms of cost is not great because natural gas is relatively cheap. But when viewed from the viewpoint of carbon reduction,

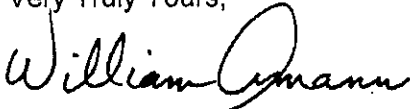
together with the on-site solar photovoltaic system, and purchasing green power from the grid, this decision makes total sense.

Another consideration was the fact that the school district expects to own and operate this facility for a long time. Geothermal systems are by their nature long-lived given the relatively constant loop temperatures and the fact that no equipment is exposed to the weather. The energy savings will help reduce their operating costs, which are more challenging to manage on a fiscal basis than one-time capital costs.

In summary, the decisions made by the Hudson County Schools of Technology to incorporate energy efficiency measures were based partially on economics and partly by their mission to provide a visionary learning environment. In addition, the project included a combined heat/cool/power (CHP) system, solar photovoltaic panels and vertical axis wind turbines. The project is attempting to achieve LEED Gold and possibly Platinum. The project will truly be iconic in terms of its energy efficiency and renewable energy systems, and should serve as a showcase, particularly for public buildings in New Jersey.

I trust that this response answers your questions and any concerns that the BPU Board members may have in regard to this most excellent project. Please do not hesitate to contact me if you have any other questions or concerns.

Very Truly Yours,



William Amann, P.E., DCEP, LEED Fellow
President, M&E Engineers, Inc.

Cc: Norman Guerra, HCIA
Gregory Sydlowski, M&E

The undersigned preparer attests that, to the best of their knowledge and belief, the below information is accurate and the subject project application adheres to the current terms and conditions of the Pay for Performance program.



Signature of Preparer

Valentina Rozanova, TRC- P4P Program Manager

03/19/2019

Date

1. Application Number: **47204-1**
2. Program Name: **Pay for Performance – New Construction**
3. Application Received: **06/08/2017**
4. Customer Contact (name, company, address, phone #):
Norman Guerra
Hudson County Improvement Authority
830 Bergen Ave.
9th Floor
Jersey City, NJ 07306
201-324-6222
5. Project Name and Address:
Hudson County Schools of Technology – New High Tech High School
1 High Tech Way
Secaucus, NJ 07094
6. Rebate amount:
Incentive #1: \$41,770.80
Incentive #2: \$417,708.00
Incentive #3: \$121,831.50
Total: \$581,310.30
1. Brief description of facility/site: **The construction of the New High Tech High School is a Design- Build project which started in May 2016. The schedule above reflects rough estimate of dates that major tasks were completed. Project does not have the formal bidding process. Bidding was done after pre-design was completed and awarded to a design-build team with the developer overseeing the project.**
1. Brief description of measures:
 - 1) **Window and glass door glazing**
 - 2) **Wall insulation**
 - 3) **Roof insulation**
 - 4) **Floor slab insulation**

- 5) Insulated doors
- 6) Interior LED lighting
- 7) LED lighting in parking garage
- 8) Exterior LED lighting
- 9) Daylight dimming controls for lighting
- 10) Occupancy sensors for lighting
- 11) HVAC upgrades including:
 1. Ground source heat pumps
 2. Direct expansion VAV units
 3. Packaged rooftop units
- 12) High efficiency water cooled chiller
- 13) High efficiency hot water boiler
- 14) Demand control ventilation in the parking garage
- 15) High efficiency hot water heater
- 16) Low flow faucets and shower heads
- 17) Fan cycling for geothermal heat pumps
- 18) Demand control ventilation in gym, auditorium, and cafeteria
- 19) Temperature based demand control ventilation in the kitchen

2. Annual Estimated Energy Savings (beyond ASHRAE 90.1-2013):

- 1) 5,467 kWh
- 2) -56.7 kW demand
- 3) 48,848 therms natural gas

3. Annual Estimate Energy Cost Savings (including simple payback with and without incentive, and IRR):

- 1) \$42,168.49
- 2) Payback: 96 years without incentive, 82 years with
- 3) IRR: -10.3% without incentive, -9.5% with

4. Estimated Project Cost:

- 1) Incremental Cost: \$4,052,809
- 2) Total Project Cost: \$20,610,932

**Program Administrator Certification
(New Incentive Commitments > \$500,000)**

I, **Maura Watkins**, TRC Solutions Quality Control, hereby certify that, I have reviewed the application referenced below and determined that, as required by the policies and procedures applicable to the program, (1) the equipment incentives for which the NJCEP Program Manager now seeks approval to commit NJCEP funds have been calculated in accordance with those policies and procedures, and (2) that the amount shown below is the true and accurate estimated incentive for which the applicant(s) is(are) eligible.

Additionally, for incentives based on estimated energy savings that are uniquely calculated, including the Pay for Performance Program, Large Energy Users Program, and the Combined Heat and Power Program, I also certify that I was able to locate and review documentation supporting the inputs used to calculate the rebate amount and evidencing the NJCEP Program Manager's evaluation of those inputs as required by the program's policies and procedures.

Maura H Watkins

By: _____

Date: 03-19-2019

Maura Watkins

Quality Control – TRC Solutions

Application No.: 47204-1

Applicant: Hudson County Improvement Authority

Payee: Hudson County Improvement Authority

Committed Amount: \$581,310.30