Agenda Date: 1/25/17
Agenda Item: 8B

# 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

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|---|---|---|
| IN THE MATTER OF THE CLEAN ENERGY PROGRAM AUTHORIZATION OF COMMERCIAL AND INDUSTRIAL PROGRAM ENERGY EFFICIENCY INCENTIVES EXCEEDING $500,000 - ALFRED SANZARI ENTERPRISES, INC. | ) | ORDER |
| | ) | DOCKET NO. QG16121150 |

**Parties of Record:**

**Brad Porrino, Property Manager at Glenpointe,** Alfred Sanzari Enterprises, Inc.
**Stefanie A. Brand, Esq., Director,** Division of Rate Counsel

BY THE BOARD:

Pursuant to N.J.S.A. 48:3-60, the New Jersey Board of Public Utilities (Board) administers the New Jersey Clean Energy Program (NJCEP). The NJCEP offers financial incentives to New Jersey Commercial and Industrial (C&I) customers to encourage the adoption of energy efficient technologies. Eligible applicants may receive rebates for a portion of the cost for installing energy efficient (EE) technologies, such as lighting, heating, ventilation, air conditioning (HVAC) and water heating at their locations. All proposed C&I EE financial incentives and rebates exceeding $500,000 require explicit Board approval. See I/M/O 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 Dkt. No. EO07030203 (May 3, 2013).

The Pay for Performance (P4P) – Existing Buildings Program takes a comprehensive, whole building approach to energy efficiency in existing commercial and industrial buildings. Similar to performance contracting programs offered in other states, this Program links incentives directly to energy savings and includes a measurement and verification component to ensure that the estimated savings levels are achieved. Incentives are released upon satisfactory completion of three milestones.

Alfred Sanzari Enterprises, Inc., of Hackensack, NJ, has submitted an application for a total financial incentive of $575,769.86 under the 2016 P4P Existing Buildings Program, for a project located at the Marriott Teaneck at Glenpointe, 100 Frank W. Burr Boulevard, Teaneck, Bergen County. This application was accepted under the Fiscal Year 2016 Program Descriptions and Budget: Commercial & Industrial dated June 15, 2015. The proposed project is sited at a Marriott hotel consisting of 322,500 square feet that spans 350 guest rooms, space for conferences or other multipurpose use, as well as a restaurant, lounge, and bar. The proposed energy efficiency measures include, but are not limited to, chiller, boiler, pump, domestic hot water heater, and lighting replacements. The air conditioners and associated systems will be upgraded, as will all major HVAC controls. Furthermore, measures such as occupancy-based thermostats and kitchen demand control ventilation will be included in the scope of the project.

The estimated first incentive, for the proposed energy reduction plan (ERP), is $32,250.00. The estimated second incentive, to be paid after the installation of the recommended measures, is $271,759.93. The estimated third incentive, which is paid upon submittal of a Post Construction Benchmarking Report that verifies the level of savings achieved, is $271,759.93. These incentive amounts are within entity cap guidelines. The project has an estimated 30.8% total energy savings, and will save the customer an estimated 2,325,738 kWh of electricity annually and reduce peak electric demand by 167.4 kW annually. Through this project, the customer is also anticipated to save 12,743 therms of natural gas annually. The estimated project cost is $2,619,842.00. Overall, this project has an estimated annual energy cost savings of $260,759.00, with a 10.2% internal rate of return and a 7.84 year simple payback period with incentive. Absent these incentives, the project would have a 6.4% internal rate of return and a 15.2 year simple payback.

TRC, the Program Manager engaged by the Board to manage the NJCEP P4P – Existing Buildings Program, submitted its certification that the incentive was calculated in accordance with the program policies and procedures, and that the listed amount is the true and accurate estimated incentive for which the applicant is eligible. Further, Applied Energy Group, in its role as the NJCEP Program Administrator, also reviewed the application and submitted its certification that the incentives were calculated in accordance with the Program policies and procedures, and that the listed amounts are the true and accurate estimated incentives for which the applicant is eligible. Based on these certifications and the information provided by the Program Manager and Program Administrator, Board Staff recommends that the Board approve the above-referenced application.

The Board **HEREBY ORDERS** the approval of the aforementioned application for the total estimated incentive amount of $575,769.86 for Alfred Sanzari Enterprises, Inc., and **AUTHORIZES** issuance of a standard commitment letter to the applicant identified above, setting forth the terms and conditions of these commitments.

The effective date of this Order is February 4, 2017.

DATED: 1/25/17

BOARD OF PUBLIC UTILITIES
BY:

RICHARD S. MROZ
PRESIDENT

JOSEPH L. FIORDALISO
COMMISSIONER

MARY-ANNA HOLDEN
COMMISSIONER

DIANNE SOLOMON
COMMISSIONER

UPENDRA J. CHIVUKULA
COMMISSIONER

ATTEST:

IRENE KIM ASBURY
SECRETARY

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

IN THE MATTER OF THE CLEAN ENERGY PROGRAM AUTHORIZATION OF COMMERCIAL AND INDUSTRIAL (C&I) PROGRAM ENERGY EFFICIENCY INCENTIVES EXCEEDING $500,000 – ALFRED SANZARI ENTERPRISES, INC.
DOCKET NO. QG16121150

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

I, **Maura Watkins** , Quality Assurance Manager for NJCEP Program Administrator, Applied Energy Group, Inc., here by 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 TRC 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 Custom Program, Pay for Performance and Large Energy Users Program, I also certify that I was able to locate and review documentation supporting the inputs used to calculate the rebate amount and evidencing TRC's evaluation of those inputs as required by the program's policies and procedures.

Maura H Watkins

By: _____ Date: 12-01-2016

**Maura Watkins**

Quality Assurance Manager - Applied Energy Group, Inc.

Application No.: **35191**

Applicant: **Alfred Sanzari Enterprises (Brad Porrino)**

Payee: **Alfred Sanzari Enterprises, Inc.**

Committed Amount: **$575,769.86**

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

I Carl Teter hereby certify that applications on the attached list have been reviewed by TRC or its subcontractors as required by the policies and procedures applicable to each program, that the incentives for which TRC now seeks approval to commit have been calculated in accordance with those policies and procedures, and that the listed amounts are the true and accurate estimated incentives for which each applicant is eligible.

By: _____ Date: 12-5-2016

*Carl P. Teter, P.E., LEED AP, Associate Vice President*
*App# 35191*

1. Application Number: **35191**

2. Program Name: **Pay for Performance – Existing Buildings**

3. Customer Contact (name, company, address, phone #):
   **Brad Porrino, Property Manager at Glenpointe**
   **Alfred Sanzari Enterprises**
   **25 Main Street, Suite 600, Hackensack, NJ 07601**
   **201-832-4822**

4. Project Name and Address:
   **Marriott Teaneck at Glenpointe**
   **100 Frank W. Burr Blvd., Teaneck, NJ 07666**

5. Rebate amount:
   **Incentive #1: $32,250.00**
   **Incentive #2: $271,759.93**
   **Incentive #3: $271,759.93**
   ***Total: $575,769.86***

6. Brief description of facility/site:
   **The facility is a 350 room Marriott hotel. It is about 322,500 square feet and includes space for conference/multipurpose rooms, as well as restaurant, lounge, and bar.**

7. Brief description of measures:
   ***Measures include chiller, boiler, pump, domestic how water heater, & lighting replacements. Air Conditioners 1, 2, & 3 will be upgraded with direct-drive fans, VFDs, new coils, valves, and casing insulation. All major HVAC equipment controls, including VAV's, to be upgraded from standalone/pneumatic controls to direct digital controls to allow implementation of various reset strategies, economizer control, VAV/VFD control, etc. Other projects include synchronous belts on return fans, occupancy based thermostats, and kitchen demand control ventilation.***

   ***See last page for full list of measures.***

8. Annual Estimated Energy Savings:
   **2,325,738 kWh**
   **167.4 kW**
   **12,743 therms**

9. Annual Estimate Energy Cost Savings (including simple payback with and without incentive, and IRR):
   **$260,759.00**
   **Simple payback 15.2 years (without incentive); 7.84 years (with).**
   **IRR 6.4% (without incentive), 10.2% (with)**

10. Project Cost: **$2,619,842.00 ($2,315,732 associated with measures, and $304,110 associated with partner and construction management fees).**

| | Measure Name | Measure Details | Quantity | Fuel Affected |
|---|---|---|---|---|
| 1 | Central Boiler Replacement | Replace existing boilers for 3 new BMK 2000 condensing boilers. Tie into new DDC control system. | 3 | Natural Gas |
| 2 | Hot Water Reset | Program automatic hot water supply temperature reset from 180°F at 20F outdoor air temperature (OAT) to approximately 120°F at 60F OAT. Tie into new DDC control system. | 3 | Natural Gas |
| 3 | Variable Volume Hot Water Pumping, WITH New Pumps, Piping | Replace two (2) existing hot water pumps for NEW Armstrong Series 4600 / 1770 RPM / 600 GPM / 140 Ft. Head / 79% hydraulic eff. @ duty point / 30-40 HP motor. Install VFD for each pump motor. Install system differential pressure sensor on HW riser to guestroom fan coil units to control VFD and tie into new DDC control system. REPIPE and CONTROL to avoid existing bypassing of total flow. | 2 | Electric |
| 4 | Chiller Replacement | Replace one (1) existing McQuay constant speed centrifugal chiller for new water-cooled Carrier 23XRV variable speed screw chiller rated for approximately 365 tons / 10°F dT. | 1 | Electric |
| 5 | Chilled Water Reset | Program both chillers with automatic chilled water temperature reset based on CHWST vs OAT. Tie into new DDC control system. | 1 | Electric |
| 6 | Condenser Water Reset | Program condenser water setpoint with automatic condenser water temperature reset based on outside air wet-bulb. Tie into new DDC control system. Use to control tower fan speed. | 1 | Electric |
| 7 | Variable Volume Chilled Water Pumping, New Pumps, Piping | Replace two (2) existing chilled water pumps for new Armstrong Series 4600 / 1800 RPM / 875 GPM / 140 Ft. Head / 82% hydraulic eff. at duty point / 40 HP motor. Convert to variable primary flow system. Install VFD for each pump motor. Install system differential pressure sensor on roof near R-1 or R-4 to control VFD and tie into new DDC control system. Consider replacement of Spa AHU 1 & 2 3-way CHW control valves with 2-way valves and electric actuators. However, also consider minimum chiller flow requirements. Tie into DDC control system. Install automatic isolation valves on each chiller evaporator bundle. Close bypass valve between supply & return headers. | 2 | Electric |
| 8 | Variable Volume Condenser Water Pumping, New Pumps, Piping | Replace two (2) existing condenser water pumps for new Armstrong Series 4600 / 1200 RPM / 1025 GPM / 70 Ft. Head / 80% hydraulic eff. @ duty point / 25 HP motor. Install automatic isolation valves on each chiller condenser bundle. Tie into new DDC control system. Install VFD for each pump motor and convert to variable flow w/ chiller head pressure control. | 2 | Electric |
| 9 | AC 1, 2 & 3 Refurbishment and R-1 thru R-4 Improvements | Refurbish (AC-1,2,3) units with new insulation on casings / new CHW coils sized for 44°F CHW w/ 10°F dT or higher. Coordinate AC-3 with the kitchen hood demand control ventilation system outlined in Kitchen DCV operation. Ensure AC-3 & EF-8 operation are interlocked. New HW coils sized for 180°F HW w/ 30°F dT for AC-1 &3 only . Install VFDs on supply and return fan motors for AC-1, AC-2, AC-3. Cut & cap bypass dampers/ductwork on AC-1 & AC-2. New direct-drive plenum supply fans for AC-1,2,3. Fully open, disable and/or remove inlet vortex/bypass dampers on R-1 & R-4. Remove discharge dampers on R-1 & R-4. Remove or lock fully open the filter damper bank for AC-1, 2 & 3. Install electric actuators on outside, return & exhaust air dampers on AC-1, 2, 3, and R-1 & R-4. Replace pneumatic HW & CHW control valves (2way & 3way) with 2-way valves and electric actuators on all AC & R units. Install electronic duct static pressure sensors, ideally located at farthest end of duct for AC-1, AC-2, R-1 & R-4. Convert all AC units & Rooftop units from pneumatic to DDC controls and tie into new DDC control system. | 7 | Electric |

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| 10 | Supply Air Temperature Reset | For R-1 &4 and AC 1 & 2, program an automatic supply air temperature reset from approximately 55°F to 65°F based on, the zone of maximum demand via the DDC control system. Return air sensors will be used to monitor RH, and reset the SAT lower when RA RH > 59%. | 6 | Electric |
| 11 | Air-Side Economizer | Program air-side economizer for R-1, R-4, AC 1 & 2 based on fixed outside air temperature setpoint of 68F.<br>In addition to controls, this requires larger outside air damper bank & intake louvers on R-1 & R-4 to allow air-side economizer. | 6 | Electric |
| 12 | AC-1 & R-1 CO2 Demand Controlled Ventilation | For AC-1, install at least one CO2 sensor in the return air duct of RF-1 and/or the space. Via the DDC control system, program the OA dampers to modulate between 0% to 10% minimum position to maintain a CO2 setpoint of approximately 900 PPM (adjustable), when the air-side economizer mode is off.<br>For R-1, install at least one CO2 sensor in the return air duct of RF-3 and/or the space. Via the DDC control system, program the supply fan VFD to modulate to maintain a CO2 setpoint of approximately 900 PPM (adjustable), at all times.<br>Program RF-3's VFD to track the supply fan R-1. | 2 | Electric |
| 13 | Synchronous Belts | As RF-1, RF-2, RF-3, RF-4, R-1, & R-4 shall be equipped with VFDs as per ECM #9, install synchronous / cog belts on these fans. | 6 | Electric |
| 14 | Retrofit VAVs & Install Occupancy Based Thermostats/Control | Retrofit approximately 60 VAV boxes from pneumatic to DDC controls communicating w/BAS. Replace hot water valves w/electronic actuators.<br>For each VAV, install an occupancy-based or addressable thermostat. Program space temperature and VAV airflow setback setpoints when the space is unoccupied. | 60 | Electric |
| 15 | AC-1 & 2 Time of Day Schedules | Program AC-1 & 2 with time of day schedules to turn these units offline from approximately Midnight to 6:00 AM (adjustable) and turn them online during all other times.<br>Also utilize the DDC system to turn off any zone exhasust fans in the areas served, AND cycle the units on if there is call for heating that cannot be handled by perimeter baseboards, or a call for cooling in core areas. | 3 | Electric |
| 16 | Install Occupancy Based Thermostats/Control in Guestrooms | Install occupancy-based thermostats in guestrooms. Re-locate space thermostat as necessary to properly sense space occupancy and program space temperature setback setpoints when the space is unoccupied (i.e. 68°F heating / 76°F cooling assumed during daytime hours). | 360 | Electric |
| 17 | Replace Kitchen Domestic Hot Water Heater | Remove existing gas fired domestic hot water (DHW) boiler.<br>Install two or more new condensing DHW heater(s)/boiler(s) to meet DHW load/recovery requirements. Typical efficiency is 96.5% for all sizes. | 2 | Natural Gas |
| 18 | Enable Kitchen MUA AHU & Kitchen Hood Demand Controlled Ventilation | Enable the Kitchen makeup air unit (MUA) whenever the Kitchen Hood fans are on, reducing podium infiltration during these hours.<br>Install demand controlled ventilation system on kitchen hood to modulate exhaust fan (EF-8) and kitchen make-up air unit (AC-3) similar to Melink system. Coordinate with AC unit refurbshment outlined in ECM #9. Ensure AC-3 & EF-8 operation are interlocked.<br><br>Test and balance design airflows for EF-8 and AC-3 using new VFDs for minimum flow needed for capture and containment. Determine current required exhaust flow for EF-9 dish machine hood and reduce exisiting 2700 cfm if possible. Monitor status of this hood and reduce AC-3 flow when EF-9 is not enabled. | 2 | Electric |

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| 19 | Upgrade Interior Lighting to LED Fixtures | Replace fluorescent T8 & T12 fixtures, as well as decorative fixtures that utilize incandescent/halogen lamps such as chandeliers, wall sconces, etc. throughout building with LED fixtures or lamps. Areas include loading dock, storage, kitchen, hallways, offices, restrooms, meeting rooms, etc. | 2926 | Electric |
| 20 | Upgrade Exterior Lighting to LED Fixtures | Replace parking lot T8 high bay fluorescent fixtures and "other" exterior fixtures with LED fixtures/lamps. | 114 | Electric |
| 21 | Lighting Occupancy Sensors | Install wall or ceiling mounted occupancy sensors to control the lighting in the restrooms, meeting rooms, banquet room, and offices. | 69 | Electric |
| 22 | Photocell Control for Skylight Cove Light Fixtures | Install a photocell sensor/controller for each of the four (4) skylights cove lighting for the purpose of dimming or turning off these lights during the day. | 4 | Electric |