STATE OF NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of

Case 16-E-0060

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

Electric Rates

October 2016

REDACTED

Prepared Testimony of

David Ahrens.
Director
Energy Spectrum
1114 Avenue J
Brooklyn, NY 11230

Q. Please state your name and business address.

A. David Ahrens, 1114 Avenue J; Brooklyn, NY 11230,

Q. By whom are you employed?

A. I have been employed by Energy Spectrum. Inc as a Director since October 2003, and in this capacity I currently serve as Technical Advisor to RiverBay Corporation. My educational qualifications include a B.E. from SUNY Maritime College and an MBA from Old Dominion University. I am a Certified Energy Manager and a Certified Demand-side Management Professional.

Q. On whose behalf are you submitting this testimony?

A. I have been asked by RiverBay to testify.

Q. What is the purpose of your testimony?

A. I will discuss the effect of the new requirements related to the Reliability Credit negotiated in this case, and explain how those requirements prevent residential customers, including RiverBay, from achieving the relief from standby service costs required by the Commission Order of May 19, 2016 ("Track Two Order"). The problems caused by the JP proposals for RiverBay and other residential customers were not considered by the DPS Electric Rates Panel.

Q. What is RiverBay?

A. RiverBay Corporation, commonly known as "CoOp City", is a residential cooperative located on 330 acres in the Baychester section of the Bronx. RiverBay was formed pursuant to Article II of the Private Housing Finance Law, referred to as the "Mitchell-Lama" program, to provide affordable housing for middle income households. RiverBay consists of 15,372 residential units, 14,900 of which are residential apartments located in 35 high-rise towers and 472 of which are townhouses located in seven (7) separate clusters. RiverBay also contains three (3) separate

shopping centers, 50 commercial offices located on the ground floor of the various high rise towers, 8 multi-story garages with 10,790 parking spaces, a forty megawatt (40MW) electric generating facility, and various recreational and community facilities. RiverBay has over 1,065 employees, including its own police force, and is home to approximately 59,000 individuals.

Q. Please describe the power plant serving RiverBay.

A. RiverBay is served by an efficient central combined heat and power plant (CHP). RiverBay acquires from Con Edison (1) standby electric service, SC 13 and (2) interruptible gas delivery service under SC12, rate 2

The plant includes:

- A dual-fuel package boiler and steam turbine.
- Two 750,000 gallon fuel oil tanks
- Two dual-fuel gas turbines (GT) with heat recovery steam generators (HRSG) and selective catalytic reduction (SCR).
- A five cell cooling tower.
- A substation including a connection to Con Edison facilities (that is now shared with additional customers) at no significant cost to Con Edison.
- Electric, steam, cooling water and domestic hot and cold water distribution systems.

In 2004 RiverBay began, and subsequently completed an extensive renovation to both its buildings and the Cogeneration (CHP) electrical power plant serving them. This included installation of two12-MW GTs and a 16-MW extraction steam turbine (ST). Summertime electrical demand typically ranges from 14 to 24 MW, and 12 to 23 MW in winter.

RiverBay's thermal and electrical demand can vary dramatically with the season. For example, during spring and fall when no space heating is required, steam demand may be as low as 30,000 to 50,000 lb/hr. In winter it might be 500,000 lb/hr, possibly more.

Two thermal supply lines link the Central Plant and the buildings: One is exclusively for domestic hot water, the other is a dual-temperature loop. During the cool months, the latter carries hot water for apartment heating; in the warm months, it transports chilled water. Two 180-million-Btu/hr heat exchangers were installed in the central plant to maintain domestic hot water at 210F to 220F using 165-psig steam. Four 125-million-Btu/hr heat exchangers make hot water for space heating, also using the 165-psig steam. Temperature of water in that distribution main ranges from 100F to 160F depending on ambient air temperature.

The microgrid distributes power from the plant to the community with surplus power exported to the main grid. The plant achieved commercial operation in 2007 and cuts Co-op City's energy costs by approximately $15 million a year.

The RiverBay Cogeneration Plant demonstrated and served as a model for the resiliency of distributed generation and microgrids by remaining online during and after the Super Storm Sandy, supplying power to Co-op City's more than 59,000 residents while Sandy knocked the vulnerable utility power grid flat.

Q. Has RiverBay participated in the Performance Credit included in Con Edison tariff for standby service?

A. RiverBay was one of six standby customers to achieve savings from that program from the first year, earning monthly credits of approximately [redacted] in 2015 and [redacted] in 2016. Under the terms as described in the JP, these credits would be lost because RiverBay needs to

change over from cooling to heating by October 1st and also needs to shut down the system to clean, descale and disinfect the 5 cell cooling tower.

Q. How does the proposed Reliability Credit differ from the Performance Credit it would replace?

A. Both credits are priced at the Contract Demand (CD) rate, and both are applied pro rata over 12 months after proven performance over a measurement period. The Reliability Credit billing determinant is the minimum generation output during the measurement period. The new Performance Credit determinant is the difference between the maximum load and the CD amount (in MW). The objectionable difference is that after Rate Year 1, the measurement period will be extended an additional 30 days, from June 15 through September 15 to June 1 through September 30, and the measured hours will increase from 12 to 14 each day. This increases the total number of measured hours from 780 to 1204, an increase of 54 percent. . This is a critical change, as it would require RiverBay to maintain high powerplant production during a required maintenance period in the late summer. Compliance with that requirement is impossible for RiverBay, and I believe for many or most residential customers as well.

Q. What revision to the JP do you recommend?

A. I recommend that the JP be amended to retain the current measurement period for the entire term of the rate plan. This will result in a consistent measurement and verification regime for five years, from the first use of the Performance Credit in 2015 until the end of the rate plan in 2019.

Q. Why was the measurement period increased?

A. The increased measurement period was proposed in this Case by the Department of Public Service staff's (DPS or staff) initial testimony. The Electric Rates Panel referred to the Track 2

Order of May 19, 2016 which requires that the Reliability Credit be based on net load during the peak period. However, the Order does not specify any particular number of hours to be measured each year, nor does it define the term *peak period.* Neither does a Staff White Paper on which the Track 2 Order relies. The Order does refer to Con Edison's current Performance Credit. The Commission supported the same exclusion of outage events from measurement, but nowhere does it require extending the measurement period. One would expect the Commission to explicitly define a measurement period if it found the current period unacceptable, but the Commission did not do so.

Q. What problems are caused by the change in the peak period as proposed by staff?

A. The extended peak period will make it difficult or impossible for RiverBay to achieve the same amount of credit as it has in the past.

Q. Is it feasible to complete annual maintenance and reconfigure the RiverBay plant during the measurement period without losing the benefit of the Reliability Credit?

A. No. The reconfiguration of the system from summer cooling to winter heating requires a full shut down of the CHP plant for up to two weeks. This reconfiguration must be accomplished by October 1 of each year, in order to meet mandatory heating requirements of New York Law applicable to all residential buildings housing three (3) or more tenants. Multiple Dwelling Law Section 79 and NYC Administrative Code Section 27-2029 require heat to be supplied between October 1 and May 31st whenever the outside temperature drops below 55 degrees in the day time or 40 degrees at night. (The attached notice to tenants details the requirements applicable to all residential properties.) In addition, the City of New York enacted new laws requiring the cleaning of all cooling towers bi-annually. Compliance with these heating and cleaning mandates requires a full shutdown of the GTs for inspection and maintenance, conversion of the

heating/cooling water system from cooling water to hot water heat distribution, and a complete shutdown of the cooling tower.

Typically, this effort takes at least 8 or as many as 15 days, depending on the results of initial inspections and the time required to source replacement parts

Q. What else does this effort require?

A. In addition to RiverBay facilities managers, the work force required to accomplish this annual change-over include:

- Certified inspectors
- Licensed plumbers
- Licensed electricians
- Qualified welders
- Qualified steamfitters

RiverBay employs workers with all these skills and qualifications, and occasionally uses contractors to complete the seasonal reconfiguration on a timely basis.

Q. Were the problems caused for RiverBay and other residential customers considered by the DPS Electric Rates Panel?

A. They were not.

Q. Were these problems addressed in the JP?

A. They were not.

Q. What is the result of the change in peak period?

A. The new proposed measurement period for the revised program makes it impossible for Riverbay to earn a Reliability Credit, as it has done with the current Performance Credit. We do

not believe that it was the Commission's intent to exclude residential properties from the Reliability Credit, but that is the result. Now is the opportunity to revise that.

Q. Why is it appropriate for the Commission to modify the JP to retain the current measurement period?

A. As I discussed above, the May 19 order does not specify any measurement period. The order refers to Con Edison Performance Credit, and even extends its rule forgiving three outages to all utilities, but does not define the term "peak period" for any utility. The order expresses no dissatisfaction with the current twelve hour, three month period. Clearly, the Commission could have included type of changes proposed by included in the JP, but it chose not to do so. In the absence of that direction by the Commission, it is appropriate to retain the shorter period.

Q. Does this complete your prepared testimony?

A. Yes.