



## Background

The Octagon Park Apartments are located on the north end of Roosevelt Island in New York City. The complex contains 501 apartments, two residential wings, and a public ecological park. Becker and Becker Associates, Inc., the architects and developers of The Octagon, partnered with the New York State Energy Research and Development Authority (NYSERDA) in an effort to redesign a landmark building that is more energy efficient and environmentally responsible.

Steven Winter Associates, Inc. (SWA), a NYSERDA technical consultant, was contracted to analyze the energy use of the building under the New York Energy \$mart<sup>SM</sup> New Construction Program. Flack & Kurtz was contracted to conduct a commissioning study to ensure the implemented measures were effective. The technical analysis and commissioning assistance was cost-shared by NYSERDA.

## Recommendations

Several energy efficient measures were identified and incorporated into the redesign of the Octagon Building. These measures include:

- Fluorescent and compact fluorescent lighting in developer provided areas
- High efficiency water source heat pumps
- Thermally improved walls and roof
- ENERGY STAR<sup>®</sup> rated appliances throughout the building
- A 50 kW roof-integrated photovoltaic array to supply power to common areas

As a result, the Octagon is 35% more energy efficient (on a BTU basis) than a compliant building with similar area and use.

## Incentives and Results

NYSERDA's New Construction Program awarded an incentive of \$385,140 to help defray a portion of the implementation cost of these measures. Octagon Park Apartments is also eligible for an incentive of \$250,000 for the installation of the photovoltaic roof. These incentives, combined with the energy upgrades made to the apartment complex resulted in:

- Annual energy savings of 798,203 kWh
- Peak demand savings of 84 kW in the summer and 101 kW in the winter
- Annual cost savings of \$104,426
- A 1.4 year simple payback on the owner's investment after NYSERDA's incentive

