

Rensselaer Polytechnic Institute (RPI) Biotechnologies & Interdisciplinary Studies

Troy, NY

Background

The four-story 230,770-square-foot Biotechnologies and Interdisciplinary Studies Building, located on Rensselaer Polytechnic Institute's main campus, was built in 2003 and includes laboratories, offices, an auditorium, and mechanical rooms.

Science Applications International Corporation (SAIC) was retained by NYSERDA to evaluate electric energy-efficiency opportunities for the new building, under the New Construction Program.

Recommendations

SAIC developed separate computer simulation models to analyze the energy savings, incorporating building characteristics and building schedules, such as occupancy, lighting, and HVAC schedules, to accurately assess heating and cooling loads and evaluate building energy performance.

Among the energy-efficiency improvements implemented in the building were:

- High efficiency windows
- High efficiency atrium glazing
- Variable frequency drives
- Reduced laboratory ventilation load / heat recovery

Incentives and Results

NYSERDA's incentive of \$400,000 helped RPI defray a portion of the implementation cost to install the efficiency improvements. In total, the RPI investment could result in:

- Annual energy savings of more than 1,522,785 kWh
- Peak demand savings of 521.3 kW in the summer
- Annual energy cost savings of almost \$180,481
- Simple payback (after incentive) of 2.7 years for project

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