# Museum of Modern Art

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### New York City, New York

### Background

The Museum of Modern Art, a premier cultural attraction in New York City, installed measures to save electric energy and reduce energy costs during a new construction project. Precise temperature and humidity control is essential for the display and storage of fragile works of art, and this factor, along with the need to save energy and reduce operating costs were primary goals of museum personnel.

Joseph R. Loring & Associates, Inc., a New York State Energy Research and Development Authority (NYSERDA) technical consultant was contracted to analyze the energy use and needs of the new chilled water plant and museum. This was accomplished with assistance from NYSERDA's New Construction Program.

### Recommendations

Joseph R. Loring & Associates recommended design features in the chilled water plant that provided a lower than usual water temperature (42°F) needed to maintain the appropriate humidity levels, and at the same time provide significant energy savings. Energy-efficient HVAC equipment was also recommended. The energy efficiency measures eligible for a NYSERDA incentive included the following installations:

- Three 850 Ton Electric Chillers with Variable Speed Drives (VSDs)
- VSDs on Chilled Water Pumps (both primary and secondary)
- VSDs on Cooling Tower Fans
- VSDs on Select Air Handling Units, and a
- Plate and Frame Heat Exchanger for wintertime operation

### Incentives and Results

A NYSERDA incentive of **$400,000** will help defray a portion of the implementation cost of these energy efficiency measures. Upon implementation of these measures the Museum of Modern Art will realize:

- Annual Energy Savings of 3,130,000 kWh
- Demand savings of 51 kW in the summer and 106 kW in the winter
- Annual cost savings of $297,864

NYSERDA

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