



## ***New York Power Authority Evaluation of Instrumentation and Dynamic Thermal Ratings for Overhead Lines***

### ***Project Description***

New York Power Authority (NYPA) and its partners will implement and demonstrate the effects that Dynamic Thermal Circuit Ratings (DTCR) technology can have on areas of the New York State transmission system where there is the potential for wind generation. NYPA will use real-time thermal ratings measurements to correlate increased wind generation and increased transmission capacity, which could defer millions of dollars in capital expenditures on transmission projects. DTCR will be applied to three 230 kV transmission lines: Moses-Willis line spanning 710 feet surrounded by inactive agricultural land and low hayfields near to the town of Massena; Willis-Ryan line spanning 580 feet surrounded by cultivated cropland close to Chateaugay; and Moses-Adirondack line spanning 545 feet in Massena surrounded by permanent pasture and near natural forest and wetland.

### ***Goals/Objectives***

- ***Increase power through existing transmission corridors with minimal investment***
- Enhance the ability to dispatch wind power
- ***Implement DTCR software to calculate ratings based on sensor information for real-time operation***
- ***Conduct side-by-side field trials and evaluations of transmission line sensor systems that monitor overhead transmission line sag, temperature, and local ambient conditions***
- ***Develop best practices to integrate remote sensor data into utility communication and energy management systems***

### ***Key Milestones***

- Initial data assessment (December 2010)
- Integration into NYPA/NYISO energy management systems (December 2011)
- Widespread application across NYPA/NYISO (December 2012)

### ***Benefits***

- Electric costs reduced
- Power reliability increased
- Greenhouse gas emissions decreased
- Clean renewable energy resources



### **CONTACTS**

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### **PARTNERS**

New York Independent System Operator (NYISO)  
New York State Energy Research and Development Authority  
Electric Power Research Institute

### **PROJECT DURATION**

1/1/10–12/31/12

### **BUDGET**

**Total Project Value**  
\$1,440,000

**DOE/Non-DOE Share**  
\$720,000 /\$720,000

### **EQUIPMENT**

Video Sagometer System  
Thermal Rate System  
BackScatter Sensor System  
Weather Station

### **DEMONSTRATION STATES**

New York  
CID: OE0000317

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