Energy Efficiency

Wastewater Process Study

Wastewater Treatment Plant

North Tonawanda, Niagara County

"The City of North Tonawanda relies primarily upon NYSERDA funding to provide the impetus to evaluate all plant systems in regard to energy use, efficiency and conservation. Without these NYSERDA projects, the City would be hard-pressed to plan capital improvements to water and sewer facilities to further reduce costs to our consumers."

Paul J. Drof
Superintendent,
North Tonawanda Water Works

The City of North Tonawanda is located in southern Niagara County and has a population of approximately 35,000. The City operates a 20 mgd wastewater treatment plant (WWTP) with an average daily flow of 7.5 mgd. The plant consists of influent pumping, grit removal, primary clarification, sand filtration, carbon adsorption, and chlorine disinfection.

An energy evaluation study was undertaken to identify, evaluate, and determine energy savings through process wastewater, heating, and ventilation modifications. The New York State Energy Research and Development Authority's (NYSERDA's) FlexTech Program provided cost sharing on the project through one of its consultants, Stearns & Wheler, LLC.

The study provided a comprehensive review of the North Tonawanda Wastewater Treatment Plant and recommended energy conservation measures throughout the facility. These measures included load shedding, equipment replacement, and HVAC alternatives. If all recommended measures were installed, the treatment plant could expect to see a savings of $211,000 with a capital cost of $771,000, providing a simple payback of less than 4 years.

Improvement Alternative	Implementation Cost	Annual Savings	Payback (years)
Primary Clarifier Operations	$36,000	$37,000	1.0
Carbon Column Operations	$23,000	$49,000	0.5
Carbon Building Heating and Ventilation	$360,000	$73,000	5.0
Sludge Building Heating and Ventilation	$75,000	$26,000	3.0
Load Shedding — Non-Critical Equipment	$275,000	$26,000	11.0
Chlorinated Effluent Pump	$2,000	$800	2.5

New York Energy $mart℠

All **New York Energy $mart℠** programs are funded by a System Benefits Charge (SBC) paid by electric distribution customers of Central Hudson, Con Edison, NYSEG, Niagara Mohawk, Orange and Rockland, and Rochester Gas and Electric. NYSERDA, a public benefit corporation established by law in 1975, administers SBC funds and programs under an agreement with the Public Service Commission.

New York Energy $mart℠ programs are designed to lower electricity costs by encouraging energy efficiency as the State's electric utilities move to competition. The programs are available to electric distribution customers (residential, commercial, institutional, and industrial) who pay into the SBC.

NYSERDA

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toll free 1-866-NYSERDA, locally (518) 862-1090,
or e-mail: **info@nyserda.org**
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