

# Des Moines WRF 'Thinks Green,' Saves \$200,000

Article Provided by Van Meter Inc.

Do you ever wonder what happens to water that goes down the drain after you wash the dishes, brush your teeth or take a shower? If you live in and around Des Moines, it goes to the Des Moines Metropolitan Wastewater Reclamation Facility (DMWRF) to be cleaned and recycled. Working together with Van Meter Inc. and Energy Control Technologies (ECT), the DMWRF today is recycling water more efficiently, consuming less energy and could save more than \$200,000 annually.

## Challenge

The DMWRF serves some 500,000 people in 16 metro area municipalities, counties and sewer districts. A 50 million gallons per day (mgd) wastewater facility, it can treat a peak flow of 200 mgd and remove pollutants before discharging the water back into the Des Moines River. However, it wasn't operating at peak efficiency.

The DMWRF was exploring strategies to reduce energy usage when MidAmerican Energy offered a \$125,000 energy reduction grant as an incentive. "To qualify for the grant and meet MidAmerican's deadline, we needed help to create a viable plan — or lose the grant," recalls Steve Moehlmann, training and energy consultant and energy champion for the DMWRF. "We might have lost the grant, were it not for a suggestion by Van Meter."



## Solution

The DMWRF has four 2,000 hp blowers serving its aeration basins, says Denny Sondgeroth, Van Meter automation

specialist. Blowers supply air to the basins so the water has enough dissolved oxygen (DO) for the bacteria to clean up the pollutants. "We felt energy efficiency gains could be achieved by reducing energy usage in the aeration cycle of wastewater treatment," says Sondgeroth.



Van Meter brought in ECT, a Rockwell Automation® Process System Integrator. ECT performed a site survey to determine the potential energy savings and increased functionality that could be achieved with a new ECT-supplied blower control system. ECT demonstrated that it could operate the blowers at a lower flow rate that would provide energy savings and still meet DO and minimum mixing requirements.

## Result

With the help of Van Meter and ECT, the DMWRF plan received the MidAmerican grant. Van Meter, an authorized distributor for Rockwell Automation Process Systems, supplied the controllers and software. ECT upgraded the surge control, load sharing, vibration and temperature monitoring, compressor sequencing and human-machine interface (HMI).

"Now, we operate at the lower flow rate — saving energy and reducing our costs. We can run two blowers less often, resulting in a lower demand charge. Our

energy committee is extremely pleased with the outcome. It's also helping us 'think green' and stay focused on our sustainability goals." Moehlmann adds.

Once all the mechanical improvements are completed, energy savings are estimated at more than \$200,000, annually. "In most of the facilities improvements I've been involved with, energy savings was a byproduct. But working With Van Meter and ECT, energy savings was the driver. They made us take a closer look at our strategy. As an unintended consequence/benefit, we made additional equipment changes that will provide even greater energy savings and operational flexibility now and for the future."



## Customized Solutions

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