



At the end of the 30-month construction of the MRSA WWTP Ww2E, the facility will have a waste management plan that will create revenue for the operation.

# 'On Our Way'

Milton Regional Sewer Authority is working on a revolutionary wastewater plant that will be 100 percent energy independent. *by Marta Jiménez-Lutter*

**W**hen we think of wastewater treatment facilities, exciting and revolutionary are not the first words that might come to mind. That is until one talks to George Myers, plant superintendent at the Milton Regional Sewer Authority wastewater treatment plant (MRSA WWTP), about the new facility being developed at his site. The Milton wastewater plant is undergoing a renovation that will make it the first publicly owned

plant with secondary treatment in the nation to be 100 percent energy independent.

Myers has been involved in the project since its inception, when he and his engineer E. Charles (Chuck) Wunz, scratched some ideas on the back of a paper napkin in 2002.

"From those humble beginnings the project slowly took shape and ten years later we are on our way. Eight months into a 30-month construction project," Myers says.

**Milton Regional Sewer Authority**  
[www.miltonregional.org](http://www.miltonregional.org)  
**Project budget:** \$65 million  
**Headquarters:** Milton, Pa.  
**George Myers, plant superintendent:** "Our annual energy bill runs anywhere from \$400,000 to \$500,000. With the new systems it goes down to zero, and we'll be able to sell the excess electricity."

The MRSA WWTP Wastewater to Energy Project (Ww2E) will not only provide enough energy to power

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## (PROFILE) Milton Regional Sewer Authority

itself, but it will have a multipronged approach to waste management that will create revenue for the plant, helping MRSA pay for the \$65 million cost of the project.

Food processor ConAgra, maker of Chef Boyardee, Healthy Choice and Guldens Mustard is the biggest user of the wastewater treatment center. MRSA receives approximately 2 million gallons a day of high strength wastewater generated by the food processor.

The new system will use an anaerobic process to treat the wastewater. During an anaerobic treatment no aeration is applied to the waste, which creates a lack of oxygen that leads to controlled anaerobic conversions of organic pollutants to carbon dioxide and methane.

For the wastewater-to-energy project, BioSpark custom-designed a fuel

gas conditioning system made to withstand the harsh environment of a wastewater treatment plant conforming to National Fire Protection Association (NFPA) standards. BioSpark says this custom design is more reliable because it removes VOCs trapped in fuel gas and helps engines run longer.

The methane generated this way is an energy source that will be utilized to run two large generators. It is estimated the electricity generated will be about 1.2 megawatts, enough to cover all the electrical needs of the plant with enough left over to sell back to the grid. "Our annual electrical energy bill runs anywhere from \$400,000 to \$500,000 a year," explains Myers. "With the new systems it goes down to zero, and we'll be able to sell the excess electricity."

So not only they will save almost a

half a million dollars a year in electricity, but they will also get revenue from the power they will produce.

The heat generated by running the generators will also be harvested. "We will take the heat and utilize it to dry our waste sludge and turn it into pelletized biosolids," Myers explains of another energy efficient feature of the facility. "We'll be able to sell that pelletized sludge as fuel, soil amendment or even fertilizer."

This pelletizing process will create revenue from its sale and it will also save the MRSA almost half a million dollars annually in waste disposal and transportation.

"We transport all our sludge to the Lycoming County Landfill," Myers explains. "We're either their number one or two top customer, but we will no longer have disposal costs once we produce the pellets, so the cost is eliminated completely."

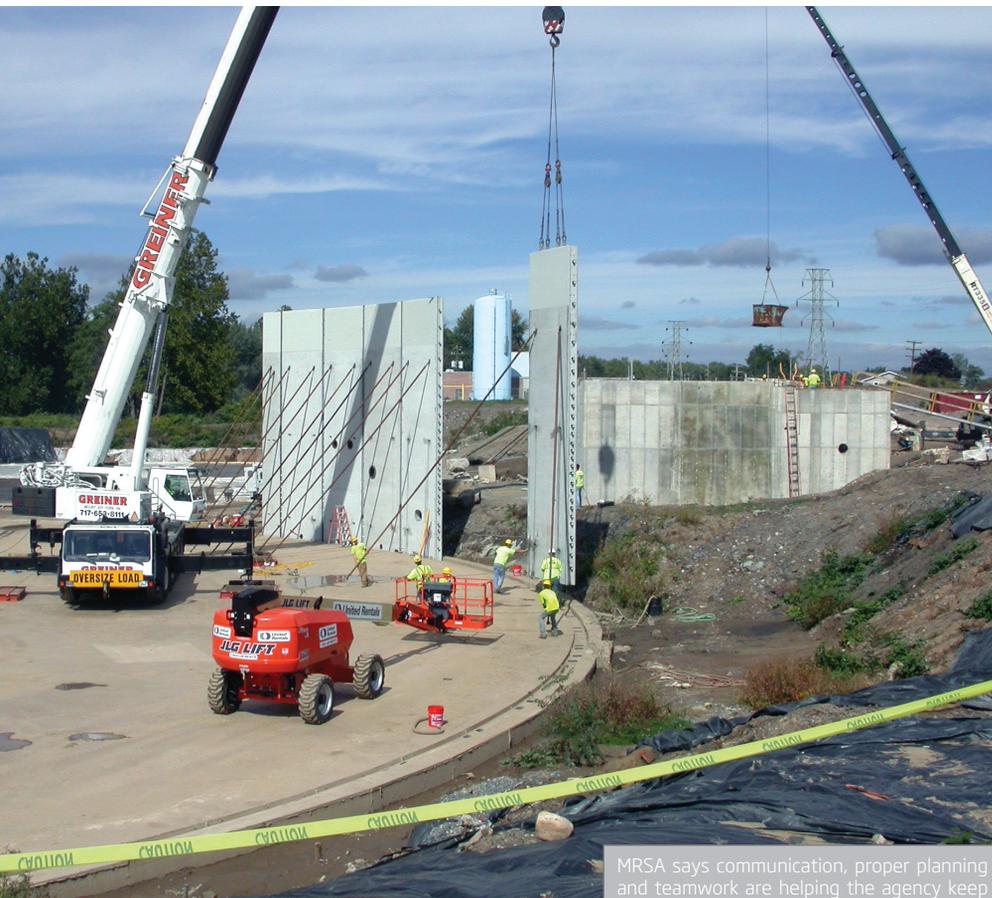
As if all these benefits were not enough, the new system at Milton will also remove more nitrogen and phosphorus from the water, reducing the pollutants that will be deposited into the Susquehanna River and ultimately end up in the Chesapeake Bay.

### Interesting Challenges

Justin Mendinsky is the Project Engineer for Herbert, Rowland and Grubic (HRG), the firm responsible for the project design and overseeing the construction of the new facility. HRG has a history working with MRSA that expands over 20 years.

"There have been some interesting challenges along the way," Mendinsky explains. "The project is being built in an area that used to be an old scrapyard, so when we started excavating we found some artifacts, and we had to make sure they were not unsafe and we had to dispose of them properly."

Another challenge HRG and MRSA had to face was keeping the facility fully functional and capable



MRSA says communication, proper planning and teamwork are helping the agency keep the facility fully functional throughout the construction process.

of meeting applicable regulations throughout the construction process.

“We can’t stop the flow that comes to us [the wastewater facility],” Mendinsky says. “We had to figure out a way to deal with it, treat it and discharge it without violating any of our permits.” It was made possible through communication, proper planning and teamwork, according to Myers and Mendinsky.

The importance of this project was clear from the tremendous amount of support it received. “The MRSA Board of Directors was very supportive,” Myers says. “We couldn’t have done this project without their support.” The UDSA also has been extremely supportive of the Ww2E project. It has agreed to approximately \$60 million in low-interest loan money in order to fully fund this project.

The municipalities involved in the approval process were also able to come to an agreement and backed the project. “Eight municipalities

approved the project, it is not every day that you achieve something like that when dealing with so many different government entities,” Mendinsky explains.

The new 20-acre state of the art facility will be fully operational by

2014, expanding its organic loading capacity to 50,000 pounds of BOD5 per day and its hydraulic loading capacity to 4.25 million gallons of water a day, and bringing revolutionary and exciting to the forefront of wastewater treatment. ○

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