MCLB Albany Officials Flip Switch for Landfill Gas-to-Energy Plant

First-Ever Facility Will Produce Renewable Electric Power & Steam

IN A LANDMARK ceremony on Friday, 23 September 2011, officials from Marine Corps Logistics Base (MCLB) Albany, GA and the local community flipped the switch on a $20 million generator plant that will produce 1.9 megawatts of renewable electric power and steam by burning landfill gas collected from a nearby landfill.

Twenty-one months ago, MCLB Albany, Dougherty County, GA, and Chevron Energy Solutions officials inked the first landfill gas-to-energy partnership. The new green technology is the first of its kind within the Department of the Navy. The process will recover methane gas from the neighboring landfill and convert it into energy and steam to help power Maintenance Center Albany.

Col. Terry V. Williams, commanding officer, MCLB Albany, said flipping the switch to the generator allowed the base to begin producing 20 percent of its total energy requirement.

"This landfill gas-to-energy project will not only help us reduce our greenhouse gas emissions and our energy intensity, but increase our renewable energies and energy security," he said. "This project is just the beginning of a very aggressive energy conservation plan. We are very proud of our energy program."

Williams also noted other energy projects the base is involved in including a large scale geothermal project—another ground-breaking first—and a ground source heat pump and storage project.

"We are also involved in a waste-to-energy demonstration project that will look at taking scrap wood materials and creating bio-oil. Our carpooling program will also help us to meet energy mandates," he said. "Other projects include transitioning our fleet of vehicles to about 90 percent electric and 10 percent hybrid, photovoltaic solar panels on the 90 acres of warehouse rooftops, and a potential large-scale biomass project."

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Fred Broome, director, Installation and Environment (I&E) Division, MCLB Albany, said, "Friday was a very exciting day. I am extremely proud of the I&E team and their hard work over the past three years."

"Our I&E team worked tirelessly behind the scenes on this project," he continued. "This was a very complicated and complex contract and there are not many of them in the Department of Defense. This resulted from a 23-year relationship. Getting to this

Col. Terry V. Williams, left, commanding officer, MCLB Albany, is among several military and public officials that flipped the switch on the $20 million generator plant during a ceremony held on 23 September 2011.

point was not easy, but it was well worth the effort."

Broome commented that the generator is currently making electricity, and next year Headquarters Marine Corps has agreed to fund a second generator, so it will double the capacity.

"There are several mandates to reduce energy consumption and there are multiple other projects in the works to accomplish that," Broome said. "Net zero is the ultimate goal. If we can get to the point where the amount of energy we are consuming is not greater than the amount of energy we are producing, then we will not be dependent on anyone. Ideally all of that energy is made from renewable resources such as biomass, energy from the sun, and so on."

Broome added that the projects are all about energy security.

"This electricity can be used anywhere on the base," he said. "It gives us a source of electricity in the event Georgia Power went down. We can still meet our critical demands here. So the maintenance center can keep doing most of its mission with just this one generator. We cannot only make energy from methane gas, but if for some reason that was interrupted, we can make it from natural gas—a triple redundancy."

Lt. Cmdr. Dan Stoddard, integrated product team leader/assistant operations officer, Naval Facilities Engineering Command Southeast, Jacksonville, FL, said the significance of the project, in addition to its technical features, is being able to generate 20 percent of the base's electrical needs.

"Reducing the need for the additional outside purchase of power is something that is unheard of. This is the first project of its kind for the Department of the Navy," he said. "The fact that the base could partially become independent from an outside electrical provider is amazing."

Jeff Sinyard, chairman, Dougherty County Commission, said one of the primary objectives for the county is to partner with the base, help it become more efficient, and position them to maintain its current mission, and grow other missions as well.

"We understand the need and what we do for the warfighter. But we also understand the business side of the base," he said. "With their current energy mandates and our country's desire to depend less on foreign oil and have more green, renewable energy, this was the right thing to do."

Sinyard said that since this is the first landfill gas-to-energy program in the country for the Navy, it means a lot to the local community. County officials take great pride in this project.

"The Marines and other partners have worked tirelessly for three years to make this happen," he said. "We are excited not only about what we are doing for the base, but for the region and this country as well."

Mike McCoy, assistant county administrator, Dougherty County, GA, was

Col. Terry V. Williams and other military and public officials cut the ribbon on MCLB Albany's new generator plant during a 23 September ceremony.

the solid waste director and one of the people who had the idea to extract gas from the landfill.

"During my time as solid waste director, I was thinking of ways to improve the landfill. One of those ways was to find a beneficial use for the landfill gas," he said. "This is very gratifying. It has not only benefitted the Marine Corps, but has helped the community and the landfill. It was a great partnership. The leaders of each organization are to be commended for coming together and making this happen."

John Mahoney, senior vice president, Chevron Energy Solutions, said Friday's ceremony was the culmination of a lot of hard work by some great engineers and construction managers.

"It is a true partnership between MCLB Albany, the Navy, Dougherty County and Chevron," he said. "This is a great example of what can be accomplished when you bring people together and they are focused on saving energy, producing renewable energy, and helping the environment."

Mahoney said this has been a really important project for Chevron and, despite the challenges, he and his company are proud of the results.

"We have done many projects with the Department of Defense and the military, but this one is unique. It is the first landfill gas-to-energy project we have done," he said. "I think it could be a model for other public-private partnerships that seek to help the armed services achieve their energy efficiency and renewable energy goals."

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Mahoney said his company has been working with MCLB Albany for more than 10 years, saving them more than $2 million. He expects that this project alone will save the base $1.8 million annually. ⚓

Photos by Nathan Hanks

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