



Renewable Natural Gas Project Commissioning

VVWRA, SWG and Anaergia form Public Private Partnership



VVWRA Board of Commissioners Chairman Bill Holland and VVWRA General Manager Darron Poulsen, joined by elected officials and representatives from Anaergia and Southwest Gas, cut the ribbon on the new renewable natural gas project.

Representatives from the Victor Valley Wastewater Reclamation Authority, SoCal Biomethane (a subsidiary of Anaergia Inc.) and Southwest Gas officially commissioned operations January 21st on a renewable natural gas (RNG) facility on the grounds of VVWRA.

The new facility will convert raw biogas (methane) made from anaerobically digested food waste along with municipal sewage from VVWRA's wastewater treatment process, to create pipeline quality RNG. The RNG is expected to be injected into the Southwest Gas system in the coming weeks. Once in production, the facility could divert more than 6,000 metric tons of methane, which is equivalent to 1.5 million CO2 tons, per year. VVWRA will be the first wastewater treatment plant in California to inject renewable natural gas made from both wastewater solids and food waste into a utility pipeline.

"This simple idea has many benefits", said VVWRA General Manager Darron Poulsen. "Now there's less food waste going to landfill, which means reduced landfill methane emissions. It also means we are able to produce more biogas, so we can send RNG to the gas grid, replacing the fossil fuel with a carbon negative fuel."

The new facility will assist municipalities in complying with California's Senate Bill 1383 regulations, which require every municipality to divert residents' and businesses' food and other organic waste from landfills, with the goal of reducing the amount of organic waste landfilled by 75% by 2025.

"Under Senate Bill 1383, every California municipality must now find a way to reduce food waste and other organic waste going to landfills. requirements efficiently."

Continued on page 2



The RNG conditioning facility where methane or biogas is converted into renewable natural gas.



Page 2

RNG Partnership cont.



The renewable natural gas project is a public-private partnership between VVWRA, Anaergia Inc., and Southwest Gas. Pictured from left to right, Yaniv Scherson, COO of Anaergia, Richard Corey, Executive Director of the California Air Resources Board Darron Poulsen, GM of VVWRA and Brad Harris, Southwest Gas VP of California and Northern Nevada Divisions.

Continued from page 1

"Anaergia offers a unique set of technologies that convert existing infrastructure at wastewater treatment plants into highly efficient systems capable of treating both wastewater residual solids as well as food waste," said Andrew Benedek, Chairman and CEO of Anaergia. "In this way, existing infrastructure can be extended to serve new California requirements in a very efficient way. The net result is beneficial to all concerned, as it lowers the cost of operating a wastewater plant, helps the municipality meet the organic waste disposal requirements, and helps our planet by creating carbon-negative fuel. Our partnership with VVWRA is an example for the entire state on how to solve the current requirements efficiently"

According to Southwest Gas President and CEO John Hester, the facility will add more than 320,000 MMBTU of renewable natural gas (RNG) to the pipeline each year, enough to offset the emissions of more than 2,000 homes.

"There's great demand for this carbon-negative fuel, especially for heavy-duty trucks, and that results in far cleaner air for San Bernardino County's transportation corridors," said Hester.

"The renewable natural gas being created here will generate a clean carbon-negative transportation fuel significantly contributing to California's decarbonization strategy while supporting California clean tech jobs," said Richard Corey, Executive Director of the California Air Resources Board, the agency tasked with reducing air pollution in the state.

Purple Pipe

VVWRA
Board of Commissioners

Bill Holland / Hesperia
Debra Jones / Victorville
Scott Nassif / Apple Valley
Paul Cook / SB CSA 64 & 42

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A closer look at the Waste to RNG Program



Truck delivers food waste to digesters.



Pipeline transports biogas.



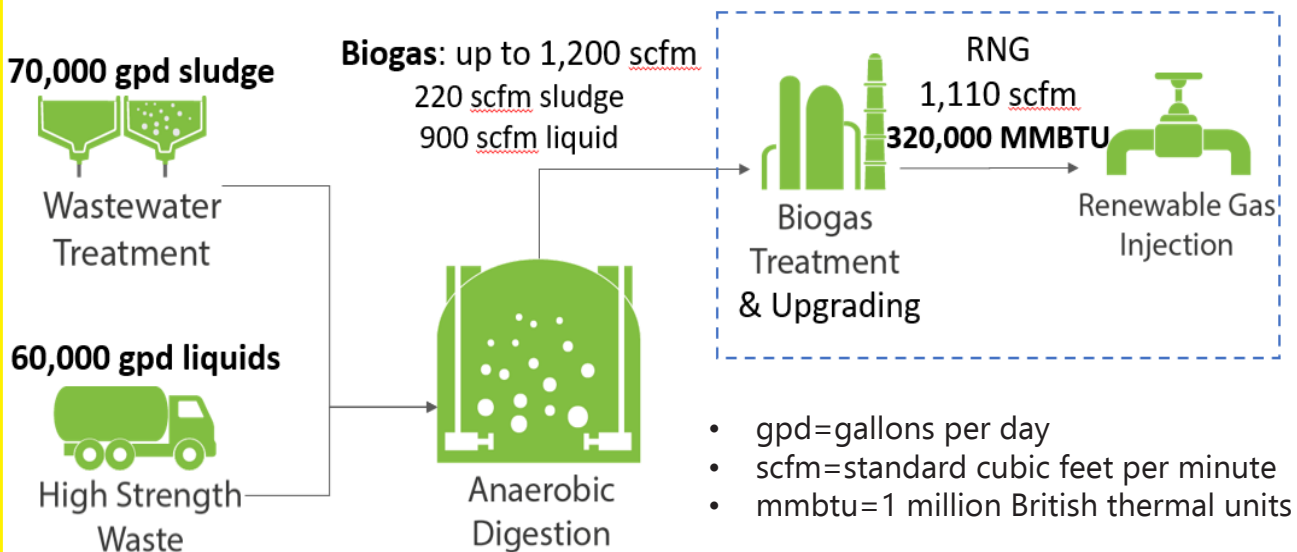
Gas is scrubbed and pressurized to become RNG.



RNG is injected into a Southwest Gas pipeline.

Treating food waste has different challenges compared to regular wastewater. Typical municipal sewage contains 1-3% total solids (solids suspended in the water) while food waste can be up to 15-20% total solids. Also, municipal waste is around 80-85% volatile solids (easily digestible organic material), while food waste is 97-99% volatile solids. The number of volatile solids in wastewater is frequently used to describe the strength of the waste. The more volatile solids present in wastewater, the stronger that wastewater is. In turn, food waste digests much quicker and produces much more biogas. VVWRA is utilizing our original three digesters which are 330,000 gallons each to solely digest food waste. Our two larger 1.2-million-gallon digesters are only being used for digesting municipal sludge, waste biology from the BNR process (biological nutrient removal), and FOG (fats, oil and grease). This separation of feed stock is to maximize the credits that will be received for the gas. Food waste gas is much more valuable than municipal waste gas. Combined, VVWRA's digestion system is expected to produce 1200SCFM (standard cubic feet per minute) of biogas. Digesters 1-3 will produce 1000 SCFM of the more valuable food waste biogas, while digesters 4 and 5 will produce around 200SCFM of standard biogas. The collected biogas will be scrubbed, compressed, and injected into the Southwest Gas pipeline as renewable natural gas (RNG). VVWRA's new food waste to RNG program will help California meet the requirements of SB-1383 which calls for the diversion of 75% of organic materials from our landfills by 2025.

RNG Process





RNG Commissioning in Pictures

A number of state and local dignitaries spoke at the RNG Commissioning ceremony.



VWRA Commissioner and Hesperia Mayor Pro Tem Bill Holland.



VWRA Commissioner and Victorville Mayor Debra Jones.



VWRA Commissioner and Apple Valley Councilman Scott Nassif.



VWRA Commissioner Dakota Higgins.



Assemblyman Thurston "Smitty" Smith.



CA Air Resource Board Executive Officer Richard Corey.



Yaniv Scherson, COO of Anaergia.



Brad Harris, Southwest Gas VP of Northern Nevada and California.



RNG Commissioning in Pictures



(l-r) Richard Corey, CA Air Resources Board, Melissa Bailey, Anaergia, Yaniv Scherson CCO of Anaergia, Assemblyman Thurston "Smitty" Smith.



(l-r) Lucy Fan, VP of North Sky Capital, Yaniv Scherson, COO of Anaergia, Darron Poulsen General Manager of VWVRA, Richard Corey, CA Air Resources Board, Adam Bernstein, Managing Director of North Sky Capital.



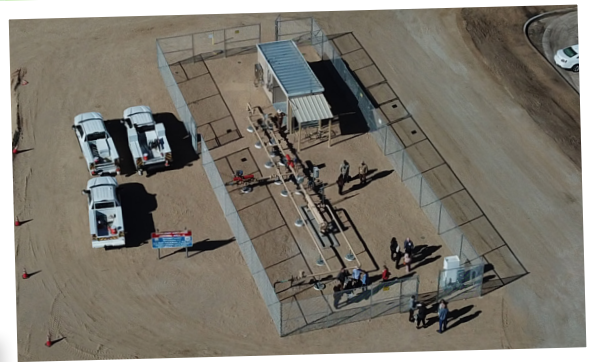
(l-r) Dr. Kimberly Cox, General Manager of Helendale CSD and Mojave Water Agency Board member and Hesperia Mayor Brigit Bennington.



Anton Stallinger, Anaergia's Director of Project Execution, leads a tour of the new facilities.



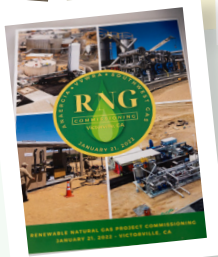
Guests tour the Anaergia gas conditioning facility.



Guests tour the Southwest Gas injection site.



RNG ceremony site.



Event program.



Flag adorns VWVRA digester.



Around the plant



VWRA wins 6 CWEA/DAMS Awards

CWEA The awards recognize excellence in a variety of areas in the wastewater industry.



EC & I Technician Craig Taylor (l) won Electrical Instrumentation Person of the Year. Presented by CWEA President Arvind Akela.



Senior Operator Miguel Mendoza (l) won Operator of the Year. Presented by Operations Supervisor Andrew Henriquez.



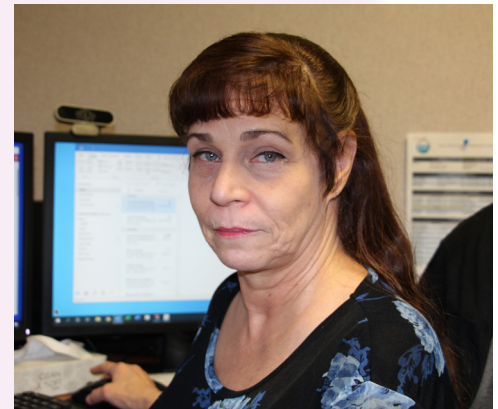
Maintenance Mechanic Richard Swtzell won Mechanical Technician of the Year.



EC Inspector Robert Townsend (l) accepts the Engineering Achievement Award for the Desert Knolls Interceptor Project. Presented by CWEA President Arvind Akela.



General Manager Daron Poulsen accepts the Research Achievement Award for VWRA's Interceptor Risk Analysis. Presented by CWEA President Arvind Akela.



Accounting Technician Anne Mazzerella won Administrative Support Person of the Year.

Welcome to VWRA!



Alfredo Garibay
Operations Intern



Allen Dorado
Maintenance Intern

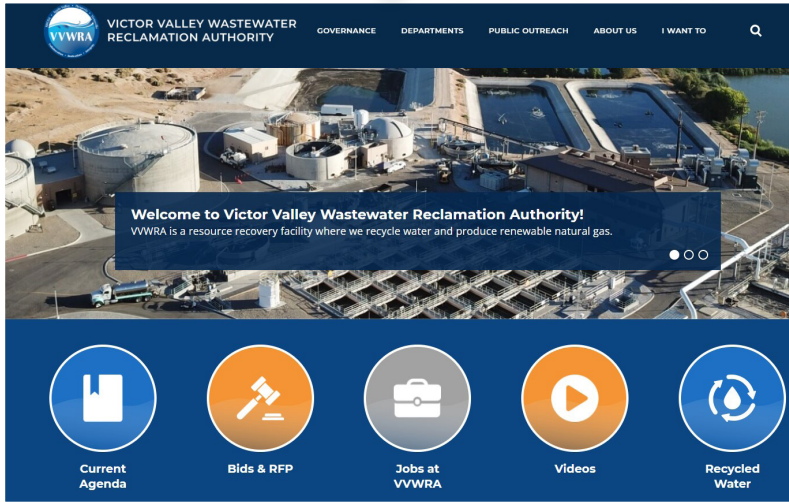


Chase Cottrell
Operations Intern



This 'n that

VWRA.com gets a new look!



VWRA's website VWRA.com has gotten a makeover with a new design and color scheme. The new website makes it easier for visitors to navigate things like job opportunities, agendas, RFP's, news and more.

Super Bowl = Super Flow

Super Bowl Sunday is one of the highest flow days of the year at VWRA. While you're enjoying the big game, the staff at VWRA is watching sewer flows increase as much as 30%. At halftime, the flow can actually double for a short period of time. "It's one of the most stressful days of the year for a wastewater worker", said Plant Superintendent Brad Adams. In 2021, VWRA averaged a daily max flow of around 14 million gallons of wastewater flow (MG), but on Super Bowl Sunday, the flow exceeded 18 (MG). This year, we were preparing for more than 20 (MG). Our regional plant has a permitted 14 million gallons per day (MGD) treatment capacity. With a flow spike this high, VWRA will be right at the edge of the treatment capacity and any extra wastewater must be stored in equalization basins until the flow drops overnight. So next time you flush during the game, think of us at VWRA.

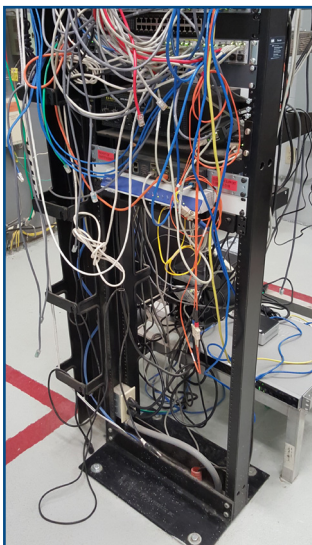


Network Modernization

Over the past 20 years, VWRA has seen unprecedented growth in the assets we manage. VWRA now owns and operates three reclamation plants (the main plant in Victorville and two subregionals in Hesperia and Apple Valley) and three lift stations, which pump wastewater flow when gravity cannot be used. The information technology (IT) network is essential in making these facilities operate properly and safely.

The IT network infrastructure needed to be upgraded and modernized to support the growth we have seen.

As part of the Network Stabilization and Modernization Project, VWRA has awarded a contract to Netgain Networks Inc. to perform the needed upgrades. They are redesigning VWRA's core IT network to meet the latest industry standards. The upgrades are designed to improve performance and reliability and to meet the EPA's cybersecurity best practices for the wastewater sector. The project is expected to be completed at the end of June, 2022.



Network rack before



After



The project is expected to be completed at the end of June, 2022.

The Back Side...

Chili Champ



1st

Congratulations to Maintenance Mechanic David Sharp who won the first VVWRA Employee Chili Cook-off beating out five other competitors. David's winning homemade recipe includes a secret combination of bacon grease and coffee.

Stunning sunrise



Photo by James Pasieka

A brilliant High Desert morning overlooking the aeration basins at VVWRA.

Twin sons of different mothers?



Many of us at VVWRA have to do a double take when looking at Operator Kalin Westover (r) and Operations Intern Chase Cottrell. They swear they're not related.