



# CENTRAL MARIN SANITATION AGENCY

NEWSLETTER | SUMMER 2016

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A NACWA Platinum 11  
Peak Performance  
Agency

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Jason R. Dow, P.E.  
General Manager



Existing cogeneration engine (left),  
and PG&E transformer and main plant switchgear (below).



## Getting Ready to Supply Excess Power to the Grid

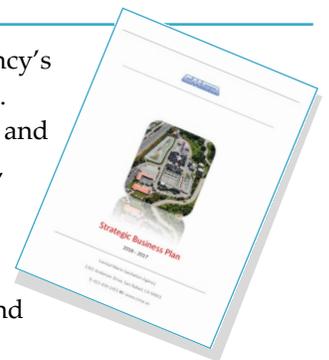
In July, the Agency's facilities were powered 24/7 on biogas for 26 days, including 15 consecutive days at the end of the month. Additional deliveries of soy whey, brewery wastewater, and fats, oils, and grease (FOG) in recent months have significantly increased biogas generation in the Agency's anaerobic digesters. It is expected that there will be sufficient biogas generation in the near future to fully meet the Agency's energy needs.

Additionally, CMSA's cogeneration system has extra capacity that could be used to supply excess electricity to the local utility grid. However, to do so, the Agency must receive a modified Interconnection Agreement (IA) from PG&E.

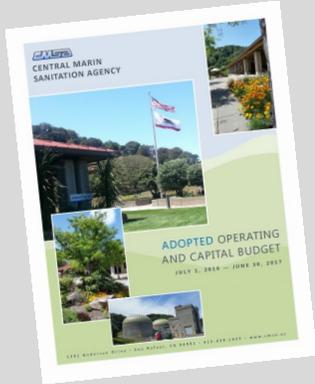
In April, a consulting firm began gathering the necessary information to apply for an IA modification. This work included determining available excess digester capacity and maximum biogas production, maximum potential power generation, options to supply excess power, and probable equipment upgrades that will be necessary to deliver power. The results of the analysis indicated that there is significant surplus digester capacity to produce up to 950 kW with the installation of a second cogeneration system. The Agency submitted the IA application in August, and has started preparations to file an application for a State Revolving Fund planning grant/loan.

## New Strategic Business Plan

Last year, the CMSA Board approved the development of the Agency's next Strategic Business Plan (SBP) with a new format and schedule. This spring, the CMSA Board participated in planning workshops, and collaborated with staff to review and update the Agency's Mission, Vision, and Goals statements, and prepare new Value statements. Agency staff identified Objectives and Actions that staff will undertake this fiscal year. In July, the Board adopted the Agency's new SBP that sets organizational priorities, and guides decisions and actions that will shape the Agency into the future.



## Capital and Operating Budget Adopted



The CMSA Board approved the Agency's FY 16-17 Operating & Capital Budget at their June 2016 meeting. The budget guides the Agency on how resources will be used in the fiscal year to maintain operations and support capital improvements.

The budget comprises:

- Revenues of \$12.237M
- Operating Expenditures of \$11.58M
- Capital Improvement/Asset Management program of \$4.19M
- Capital Debt Service of \$4.96M

Agency staff is in the process of preparing an expanded version of the budget that follows the guidelines recommended by the Government Finance Officers Association (GFOA). This version will be submitted to the GFOA Distinguished Budget Presentation Awards Program in September. The Agency has received this GFOA award for the past five consecutive years.

## OPERATIONS / MAINTENANCE ACTIVITIES

### Primary Influent Channel Isolation Gates Installation

Wastewater flow into the Agency's seven primary clarifiers is regulated by using submerged isolation gates in the primary influent channels. A 2014 condition assessment of these gates determined that they were at the end of their lifecycles. Several of the gates that were installed in 1985 were replaced after the assessment, and last spring maintenance staff replaced eight additional gates.



### New Aeration System Drain Pump Installed



It normally required 24 hours to empty the aeration tank with the original drain pump, and the equipment was reaching the end of its service life. A new variable frequency drive pumping system was installed that reduces the drain time to six hours—plus the new controls are automated allowing remote control through the process control system.

### Digester Heat Exchangers Replaced

Staff noticed a leak between the heating water and digested sludge loops in a heat exchanger, allowing comingling of the liquids. The second heat exchanger was inspected and no leaks were found. Staff procured and installed two new heat exchangers in late June and both are in service heating the Agency's digesters.



### Facility Power Use Reduced



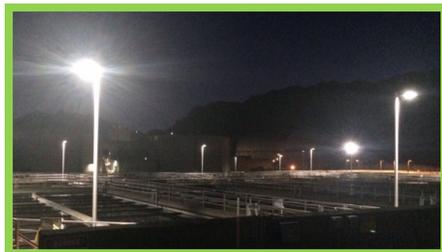
Power is distributed from the Agency's main electrical switchgear to twelve local distribution panels. To gain a better understanding of energy use in each area, staff installed power monitoring devices to track the demand. In the first week utilizing this new equipment, staff was able to lower usage by 14 kilowatt hours per day.

### Energy-Efficient Recycled Water Control Upgrades

A 2014 energy conservation study of CMSA's facilities recommended installing more energy-efficient variable frequency drives (VFD) on the facility's recycled water and carrier water pumps. This equipment is used for chemical dosing purposes, and to deliver water to the truck fill station and other process areas throughout the facility. Electrical/Instrumentation staff designed and installed the new VFDs.



### Progress Made on Lighting Conversion Project



Over the past three years, the Agency has been systematically replacing high pressure sodium (HPS) lighting with energy-efficient LED lighting. Converting these lighting fixtures increases their lifespan, provides more lumens/watts of light, and enhances safety by generating a better light quality. Electrical/Instrumentation staff recently completed a project to replace the deck lighting at the primary clarifiers, secondary clarifiers, chlorine contact tanks, and walkways between process tanks. A total of 32 light stands and 21 wall packs were converted during this project.

## ENGINEERING PROJECTS

### Chemical Contracts Secured at Reduced Cost



*Chlorine Contact Tanks.*

Since 2013, the Agency has participated in the Bay Area Chemical Consortium (BACC) to seek bid proposals for chemicals that are used to control odors, im-

prove treatment process operations, and disinfect and dechlorinate the effluent. The BACC is a cooperative group of over 50 public water and wastewater agencies in northern California that administers the competitive bidding for its members. Five chemicals used at CMSA were included in the BACC bidding process, and the awarded pricing either remaining the same as the previous year or was reduced by as much as 21%.

Staff conducted a separate bidding process for polymer as this chemical isn't widely used by other BACC members. The awarded polymer contract was 32% less than the previous year's unit price.

### Maintenance Building Upgrades

Last summer, the Agency hired FME Architecture to design maintenance building improvements to create office spaces, enclose the open side of the building for additional storage space, and modify the grading around the building to meet accessibility requirements. The design work also includes a new, prefabricated metal storage building at the east end of the Agency property.



*Existing Maintenance Building.*

FME completed the design work and prepared construction bid documents that were recently approved by the San Rafael Planning, Building, and Fire Departments.

In September, staff will request Board authorization to release the project for public bidding. If favorable bids are received and a construction contract is awarded, construction activities are anticipated to begin in December and be completed during the fall of 2017.

### Preparing the Next Facilities Master Plan

Every few years, the Agency prepares a Facilities Master Plan to guide in the decision-making for future facility and equipment improvements and projects. Last month, with Board approval, the process to prepare a 2017 plan



*Aerial view of CMSA.*

began with the development of a Request for Proposals that went to several engineering consulting firms. The 2017 plan will focus on the condition of the Agency's aging facilities, impacts associated with potential regulatory changes, biogas utilization for energy generation, operational improvements, and climate change issues, including greenhouse gas reduction and sea level rise. Findings and recommendations from the 2017 plan will be used during the development of the Agency's next multi-year revenue plan and incorporated into the next update of the 10-year Capital Improvement Program. The Master Plan is scheduled to be completed in the summer of 2017.

### San Quentin Village Sewer System Checked

The Agency has an agreement with the County of Marin to operate and maintain the wastewater collection system for the San Quentin Village Sewer Maintenance District.

The Agency coordinated with the County to hire a contractor to clean, inspect via closed circuit television, and smoke test the gravity sewer system. This inspection assessed the system's condition, and identified sources of groundwater infiltration—a primary cause of sanitary sewer overflows. The contractor found cracks in pipelines and open cleanouts at ground level, and these findings will be used by the County to plan future improvements.



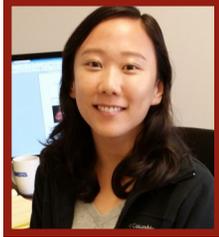
*Smoke visible from roof vents.*

## HUMAN RESOURCES

### Welcome New Staff Members!

The Agency is happy to welcome two new employees.

**Amy Hwang**, Assistant Engineer, was hired on May 23. After graduating from UC Berkeley with a graduate degree in Environmental Engineering, Amy spent the last two years working at Brown and Caldwell. She lives in Oakland and likes to spend her free time renovating her home.



**Abraham Clark** joined the Agency on May 25 as an Operator-in-Training (OIT). Prior to working for CMSA,



Abraham honed his operations skills while completing an OIT internship at the Graton Community Services District and attending Wastewater Technology Certification training at the Santa Rosa Junior College. In his free time, Abraham enjoys the outdoors, and his favorite activities are kayaking and hiking.

### Personnel Policies Updated

In keeping with the Agency practice of continuously reviewing and improving existing policies and procedures, this past June, Agency staff completed a formal update of CMSA's Personnel Policies and Procedures Manual. Staff collaborated with the Agency's employment law attorney in order to recommend several updates and revisions reflecting the most recent industry



standards, and addressing varied topics such as unlawful harassment, hours of work, attendance, sick leave, training and

development, use of Agency equipment, safety, gratuities, use of social media, and many others.

A great deal of work was conducted to ensure language clarity and ease of comprehension. Staff reviewed the proposed revisions with SEIU Local 1021 representatives and reached an agreement on the final manual. The manual has been approved by the Board, and is posted on the Agency's website:

[www.cmsa.us/documents/administrative](http://www.cmsa.us/documents/administrative)



## ENVIRONMENTAL SERVICES

### AGENCY LAB TESTING AT 100%

The CMSA lab testing was in compliance with NPDES permit requirements, with 100% survival in all the recent bioassays.

### SUMMER EVENTS

The Wastewater Treatment Agencies of the Marin County Public Education and Outreach Program staffed booths at numerous events, including the Civic Center Earth Day Farmer's Market, Spring Marin County Home and Garden Expo, Fairfax Ecofest, Wetlands Days at Sewerage Agency of Southern Marin, and the Marin County Fair. Over 3,000 people took CMSA's environmental quiz, almost 700 more than last year. The "Where Does It Go" juggler show was performed at seven elementary schools so far this year, reaching over 1,400 students.

### NACWA PEAK PERFORMANCE AWARD

CMSA has received the National Association of Clean Water Agencies (NACWA) Platinum 11 Peak Performance Award, recognizing eleven consecutive years of 100% NPDES permit compliance. Fewer than two percent of all wastewater treatment plants nationally qualify for the 5-year Platinum Peak Performance Award. Eleven years of compliance is a major achievement, demonstrating the hard work of our staff.

### LAGOON AND CANAL TESTING

Annual testing of the lagoons in Corte Madera is underway to ensure their water quality during the warm weather months when the public enjoys a variety of recreational activities.

### ODOR AND CORROSION TESTING

Warm weather wastewater testing of the collection systems' force mains has begun. The tests include measuring sulfide levels, and adjusting the level of an odor controlling chemical to reduce the sulfides, which can cause the formation of toxic gases and corrode sewer pipelines.

### SOURCE CONTROL INSPECTIONS

Environmental Services staff performed more than 1,000 inspections last year at businesses in Marin County, such as restaurants, dental offices, auto body shops, and car washes. The frequency of the inspections is determined by the amount of water discharged, the potential of releasing harmful materials to the sanitary sewer, and whether or not the facility has met all discharge requirements in the past.