NEWSLETTER | SPRING 2023

INSIDE:

A NACWA Peak Performance Agency

1301 Andersen Drive
San Rafael, CA 94901
Phone 415.459.1455
Fax 415.459.3971
www.cmsa.us

Jason R. Dow, P.E.
General Manager

PROJECTS AT CMSA

We're Covered!

To minimize the risk of a premature failure of Digester No. 2's membrane cover, the cover was replaced in October 2022. Staff incorporated several operational and project management lessons learned from the Digester No. 1 cover replacement project and many inter-departmental coordination efforts were made to plan and execute the project. The project was completed in late October and Operations began heating, mixing, and introducing seed sludge into Digester No. 2 in early November. The digester returned to full-service in November 2022 and is now online producing biogas for cogeneration.

Renewable Power Generation

After four years of planning, design, equipment pre-purchase, and construction activities, the new cogeneration engine installation project was deemed substantially complete in early 2023. The system has been running reliably around the clock since fall of 2022, providing CMSA with up to 995-kilowatts of renewable power for its facilities as well as exporting excess power to Marin Clean Energy. Staff has been trained in the operation and maintenance of the new equipment and is becoming very familiar with its many components. Due to the increased efficiency of this modern engine, it has been able to supply almost 100% of the Agency's power needs with renewable power for most of December, January, and February. Staff expects to continue that trend and further increase exports of renewable energy throughout the year.

New cogeneration engine in operation.

Rehabilitation Project Update

Rehabilitation of Secondary Clarifier No. 1 and No. 4 was successfully completed in October 2022. With its completion, three of the four secondary clarifiers are now equipped with new turntable drive units, fiberglass grating, wires and conduits, and new protective coating for their steel and effluent concrete surfaces. The remaining unrehabilitated clarifier is Secondary Clarifier No. 2, and that work is scheduled for this summer. A camera inspection of the center column assembly showed internal corrosion, and a new stainless-steel assembly has been ordered. Construction is expected to last from April to August 2023.

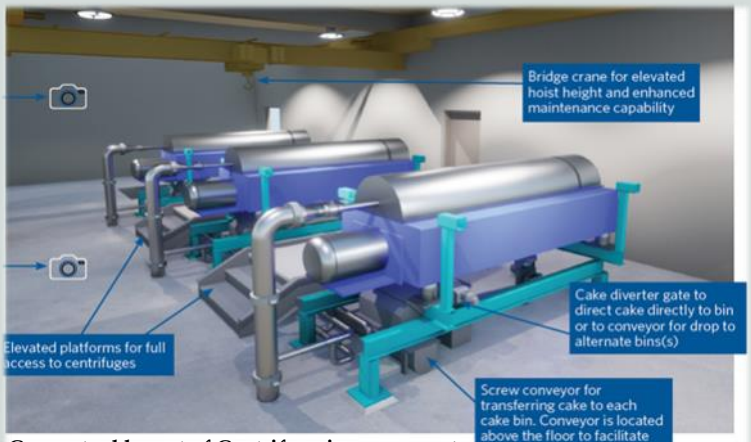
TECHNICAL SERVICES PROJECTS

Laboratory Receives ELAP Certification

In 2020, the California State Water Resources Control Board adopted comprehensive regulations for the Environmental Laboratory Accreditation Program (ELAP) to modernize the program and improve data quality for California communities. CMSA staff have been busy preparing for this transition by reviewing and updating a large number of laboratory administrative and sampling method procedures and completing numerous ELAP audits and inspections. We are happy to report that CMSA received it's official Laboratory TNI-2 certification on March 1, 2023.

Centrifuge Design Underway

The Agency installed three dewatering centrifuges in 2002. After the start of the co-digestion program in 2014 that resulted in the change of the digested sludge characteristics, the centrifuges no longer operated at their original design capacity and are now nearing the end of their useful lives. This Project includes verifying design criteria, performing pilot testing, pre-purchasing the centrifuges, and developing detailed plans and specifications for construction. Staff selected Black & Veatch due to the extensive experience of their team, high quality proposal, and many innovative and cost-saving recommendations for the Project. The design phase is expected to be completed around December 2024, with construction planned to start in early 2025.



Conceptual layout of Centrifuge improvements

Critical Electrical System Assessment

Many parts of CMSA's electrical distribution system have been in continuous service for almost 38 years. The main switchgear is a critical system that provides power throughout the entire facility. It was inspected several years ago, and a specialized consultant recommended re-inspecting it every few years to ensure its performance is not deteriorating. The current inspection is scheduled for April/May of 2023 and the results will determine future switchgear replacement options. The headworks Motor Control Center (MCC) is a component of the facility power system that powers the headworks area, including the influent screens and grit removal facilities. The headworks MCC has experienced significant moisture exposure due to water leaks. The MCC will also be inspected to provide options for extending its life and/or replacement.

Main Switchgear

Headworks MCC

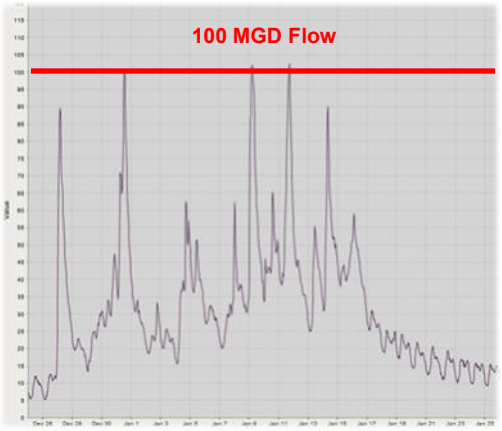
Grant-Funded Project Update

Bids for the Liquid Organic Waste Receiving Tank Upgrades project were opened in September 2022, and GSE was awarded the construction contract for $2,213,700. Since the award, GSE has been providing submittals for review and procuring the equipment. Construction will begin in late March and is expected to wrap up in the summertime, with operational startup testing planned for August 2023. This project is funded by the CalRecycle Co-Digestion Grant of $2.5 million.

OPERATIONS AND MAINTENANCE DEPARTMENT ACTIVITIES

Stormy Weather

From December 25 through January 25, CMSA recorded over 19.5 inches of rain at its onsite rain gauge, which contributed to several 100+ million-gallon peak flow events. Over 1 billion gallons of wastewater was processed during this time frame; to put that into perspective, that is equal to 28% of CMSA's total flow for 2022 in thirty days! CMSA removed 98 cubic yards, or 33 garbage dumpsters worth, of rags/grit and used 125,000 gallons of process chemicals, during this time frame. All of this was completed while meeting all requirements of CMSA's NPDES discharge permit.



Improving Controls

Staff completed the installation of two new control panels that operate pumps that service the septic waste and vacuum truck receiving stations. The original panel did not have the capacity to operate additional equipment at either site. The new panels control the operation of one pump each but have the cabinet space to also control future equipment. These units were pre-programmed, and new conduit and wiring were installed prior to removing and replacing the original cabinet. Once installed, the controls were connected to pumps and level instruments.

Original Control Cabinet

New Control Cabinets

Jenbacher Training & Maintenance

The Jenbacher cogeneration engine has been online since mid-September producing green power while undergoing manufacturer performance testing. In December, staff attended a four-day onsite "Operator Training" course provided by NES-WES, the system's authorized installation and service provider. Training consisted of basic control system fundamentals, inspection and maintenance intervals, and a hands-on lesson in performing a regular preventative maintenance service. Recently, NES-WES returned to the Agency to oversee our technicians performing a routine service and certify that it was performed correctly. These routine services occur at 3,333-hour intervals, approximately every 4.5 months, and consist of changing the oil and oil filters, air and fuel filters, gapping spark plugs, completing valve adjustments, and verifying emissions parameters. Agency technicians are now authorized to perform this routine procedure.

Influent Sampler

CMSA uses automated 24-hour samplers to collect and test for various constituents in the wastewater as it enters, flows, and ultimately leaves the facility. The pictured sampler below was installed in the Headworks, where wastewater is first received at the treatment plant. Its purpose is to support the combined sampling of wastewater coming in from the collection system, sewage and large vacuum trucks that service the collection system, and wastewater received in tanker trucks from construction or concert venue sites.

THE LATEST FROM FINANCE AND ADMINISTRATION

Project Accounting Rollout

The Agency recently went live with "Project Accounting" within its financial system to improve tracking and managing capital project expenditures. Using a template, projects are set up based upon needs utilizing specific accounts within each project to track direct project costs, staff labor, funding, budgeting, timeframes, and detail or summary reporting. Simply reference a project account code to the progress payment, time entry, or cash receipt, and project accounting does the rest.

Billing and Customer Service Program

The Agency invoices its customers for wastewater services, discharge permits and inspections, hauler tipping fees, various contract services, and public education program expenses. The billing system contains many features for efficient operation and management coupled with an improved customer service program. Key features of the program include professional forms, invoices, flyers, the ability to speak with employees, and flexible payment methods by mail, in-person, or online.

New 5-Year Revenue Plan

Staff, the Board's Finance Committee, and JPA managers worked collaboratively to prepare a new 5-year revenue plan for FY24 – FY28. The draft plan has 4% total revenue increases for FY24 and FY25, and 3.5% increases the following three years. The Board approved the plan at its March 14 meeting.

Upcoming Budget

It's time to prepare a new two-year budget for the fiscal years ending June 30, 2024 and June 30, 2025. The budget calendar has been issued and department managers have begun the process to update revenue requirements, salary and benefit worksheets, department operating budgets, the capital budget, the 10-year financial forecast, and the budget narratives, charts, tables, and graphs needed to complete the final budget book. Staff will meet in late April with the Finance Committee and will submit a draft proposed budget to the Board in May.

Financial Reports Awards

The Agency completed its Annual Comprehensive Financial Report and Popular Annual Financial Report for June 30, 2022 and submitted them to the Government Finance Officers Association for Certificate of Achievement awards. The Agency consistently receives these awards for its full disclosure financial reports.

NEW EMPLOYEES & PROMOTIONS!

Aurora Alexander joined the CMSA team in September 2022. She has a bachelor's degree in Geography and Environmental Planning and completed her Associates in Water Resources Management prior to moving to Sonoma County and beginning her career with Sonoma Water. She has Wastewater Treatment Plant Operator Grade 2 and Water Treatment Plant Operator Grade 2 licenses. In her spare time, Aurora enjoys fostering her knowledge of the culinary sciences, dance, and textile art.

Cody Leveque was hired in November 2022 as an Institutional Utility Laborer. He grew up in Santa Rosa and graduated from Santa Rosa High School. He then studied in the culinary program at Santa Rosa Junior College. Before CMSA, Cody worked as a produce clerk in a grocery store. In his free time, he enjoys cooking, camping, fishing, and watching the 49ers win football games.

Brian Carr joined CMSA in October 2022 as a Mechanical Technician. He came here from Humboldt County where he worked for the City of Arcata as a water/wastewater Mechanical Technician. He grew up in Alaska and enjoys learning about nature, especially foraging for local mushrooms with the MycoMarin mushroom club.

Jake Dellinger & Jim Clark were promoted to Lead Mechanical Technician positions in October 2022. The vacancy of two key positions earlier in the year left a leadership gap within the department and they were selected by an independent review panel as the top candidates. Jim was originally hired in 2014 and Jake in 2015. Both have worked several demanding wet weather seasons, trained new technicians to work on various equipment, and bring a unique set of individual skills to the department.