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FINANCE ADMINISTRATION HUMAN RESOURCES

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NEW COGENERATION SYSTEM ARRIVES!

After a year of planning and preparation, CMSA staff welcomed the new engine that will increase the facility's power and maximize the amount of renewable energy that can be made from the Agency's biogas resources. This highly specialized equipment was manufactured in Jenbach, Austria and traveled over 6,000 miles to arrive at CMSA on August 19. The new engine was placed in storage and will be transferred to the selected contractor for installation later this year.



New Jenbacher cogeneration engine in storage in preparation for installation.

Carollo Engineers was retained in the summer of 2019 to prepare the final design documents and completed the design in August of 2020, with bid documents expected to be issued to installation contractors in early September. To expedite the project schedule, the 995-kilowatt system was pre-purchased and delivered to be ready for installation once the contractor is selected.



Engine delivery and offloading.

More good news was received from PG&E, who approved important permits to operate the equipment, and from MCE who will purchase the excess renewable electricity produced by the system. And, the required operating permit from the local air board is in the final stages of approval. The installation period is expected to last between nine to twelve months and the new system is expected to be operational in the Fall/Winter of 2021.

Changes of Peak Periods Due to COVID-19

COVID-19 has impacted the world in a lot of ways and has also changed many of our daily habits. CMSA has seen a noticeable shift in our normal peak periods when the facility measures the highest influent flows. In the morning, peak flows traditionally arrived between 9 and 11 a.m., but now are arriving one to two hours later. From our non-scientific observations, many folks are waking up, showering, eating, and laundering clothes later in the mornings as they work from home. Evening peaks follow a similar pattern as people appear to be also staying up later. While this has not caused any detrimental effects to the treatment process, it sure is interesting!



PROCESS PIPING, LIGHTING, AND ROOFING

New Roof for the Administration Building Planned

The Administration Building has a wood-framed metal panel roof that was built in the mid-1980s. The building's roof has reached the end of its useful life as evidenced over the last several years by growing deterioration and leaks.



Consultant examining Administration roof.

The leaks have been temporarily sealed, but the entire roofing system is expected to continue to spring leaks due to the corrosion below the metal standing seams. The plan is to replace the entire metal roof along with the patio skylight, the adjacent water-damaged stucco ceiling, and the wood framing. A structural engineering firm was retained in July for the project, and its design phase is anticipated to be completed by December 2020.

Consultants On Site to Examine Condition of Process Piping

This summer, the Agency has been busy preparing the treatment plant for the Process Pipeline Inspection Project. In late June, the selected consultant was onsite to perform ultrasonic thickness (UT) testing and in-situ soil resistivity testing of selected buried process



Pipe thickness testing.

piping. These tests provide clues on the environmental exposure and degree of corrosion on the external surfaces of the pipes. To observe the interior conditions of the pipelines, the consultant used closed-circuit television (CCTV) on the 42" diameter pond inlet pipe and the 66" final effluent pipe, and walked through the 72" final effluent pipe in mid-August. Internal inspections of the secondary influent, primary effluent, and return-activated sludge pipelines will be performed soon.

Complex, inter-departmental shutdown coordination and nighttime work has been necessary to ensure safe inspection access and minimize disruptions to facility operations.

After the inspections are completed, the consultant will summarize the existing conditions and provide a risk assessment summary explaining which pipelines require immediate attention and others that require only periodic monitoring.



In-situ soil resistivity testing.

Facility Lighting and Energy Improvements

An on-going multi-year project is to replace fluorescent, incandescent, and high-pressure sodium fixtures/bulbs throughout the facility with energy-efficient LED lighting. Last year, staff replaced a total of 24 fixtures and retrofitted 138 existing fixtures to LED. Pendants and ceiling fixtures were replaced in the Solids Handling Building Load Bay and Headworks Grit Load Bay, and exterior wall sconces were replaced on the Effluent Pump Station (EPS) Building. Fluorescent fixtures retrofitted to LED lighting were completed in



High-pressure sodium lighting.



LED lighting retrofit.

various locations. The photos to the left of a gallery work area show that the difference in illumination between high-pressure sodium fixtures and the LED retrofit is significant. These energy-wise upgrades will save the Agency an additional 72,629 kWh of electricity annually.

BARRIERS, ODOR CONTROL, XERISCAPE, AND ZOOMING

A Year Like No Other

The Agency, a designated essential business, has continued normal operations since the initial shelter-in-place order from Marin County Public Health. To protect employees who cannot stand or sit six feet apart from the public or their co-workers, the Agency installed clear plexiglass barriers at the Administration Building counter and in the Maintenance Building office cluster. Staff continue to wear face coverings and follow social distancing and hand-washing protocols.



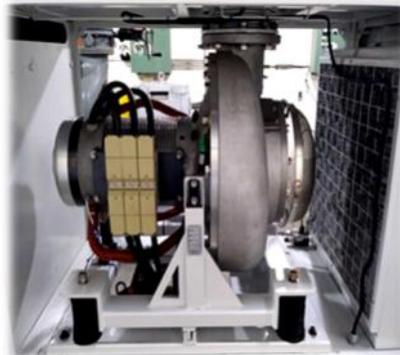
Plexiglass installed between cubicles.



Plexiglass barrier at the front desk.

Blower Core Installation by Zoom!

CMSA uses two high-speed centrifugal blowers to provide air to micro-organisms in the treatment plant's aeration system. During normal operations these units operate at 25,000 rpm so it is imperative that they receive regular maintenance. One blower core was refurbished last year, and the second core recently received the same factory level service work by the manufacturer, APG-Neuros. As with the first core, staff was able to borrow a "loner" core for use while the rehabilitation work was being done. In a unique twist, the global pandemic initially prevented the factory technician from traveling to the Agency, and it was decided that the technician could direct the removal of the old core and installation of the loaner core by web conference. The refurbished core was later reinstalled by a Neuros technician with staff assistance.



New blower core for aeration system.

The Sweet Smell of Paradise

CMSA operates and maintains four odor control stations that are strategically located within the CMSA service area. These stations introduce a sodium nitrate chemical solution into the nearby wastewater forcemain to control the formation of hydrogen sulfide, a very odorous gas. This past spring, staff completed a project at the Paradise pump station in Corte Madera to replace the chemical storage tank and all of its associated piping and rehabilitate the chemical feed pumps.



New chemical storage tank and piping.



Chemical feed pump replacements.

Xeriscape Pathway Improves Access and Protects Equipment

The sodium bisulfite spill containment vault was recently refurbished due to severe corrosion issues caused in part by groundcover sprinklers spraying the building.



Sprinklers too close to vault causing corrosion problems.

To prevent this from happening again, staff removed ground cover and relocated sprinkler heads eight feet away from the structure, and placed a gravel walkway around it to create a buffer zone. The gravel walkway along the chlorine contact tank walls was also extended to provide unobstructed access to area equipment.



New gravel walkway.

NEWS FROM FINANCE AND AGENCY TEAMS

Finance Team is Busy

Implementation of the new Tyler financial system is on track and anticipated to go live in October. The majority of what remains to be done is testing, validation, building standard forms and reports, staff training, and final acceptance.

The new Capital Improvement Program debt issuance is ramping up with data preparation being done in August, credit rating report in September, pricing planned for October, and transaction close and funding in early November.

The annual financial audit is also scheduled for this timeframe, with the report presentation to the Board scheduled for November.

Gone Phishing!

The Agency was a victim of what was most likely a phishing scheme where unauthorized users gained access to email to perpetrate frauds. The matter was



submitted to insurance and the police, and is in the process of recovery. The Agency took immediate action to prevent recurrence through implementing multi-factor authentication email login, performing random phishing testing and staff training, and scheduling IT

system vulnerability assessments. The Agency also added a Business Plan item for FY21 to routinely monitor these activities to prevent future breaches from happening.

Retirement Planning Options Expanded

CMSA rolled out a new voluntary 401(a) plan that increased the amount an employee can defer pretax for retirement purposes, substantially enhancing employee future retirement planning. The plan is not for everyone, but the Agency is happy to provide additional flexibility for those with special needs or unique circumstances. In coordination with the new

401(a) roll-out, staff also provided some retirement planning tools for pension estimating and use of the employer-provided defined contribution medical-after-retirement plan. These tools will greatly assist employees with their retirement planning.

The Agency recently received its 2020 OPEB (Other Post-Employment Benefits) actuarial valuation for its future OPEB obligations, and noteworthy points include an approximate \$400,000 decrease in the total obligation to a remaining balance of approximately \$1,600,000. Staff will reevaluate its OPEB funding plan in the Spring of 2021.

Team Members Work to Improve Processes

The Process Control Team (PCT) meets every other week to discuss challenges and efficiency opportunities in treatment plant operations. Over the past months, the PCT has been focused on optimizing the secondary treatment process, specifically stabilizing the Sludge Volume Index (SVI). The SVI is an indicator of the secondary effluent settleability and final effluent quality. While our final effluent quality is consistently better than permit requirements, the SVI has historically experienced significant volatility and undesired spiking on a short term as well as seasonal basis. Recent implementation of PCT recommendations to modify the aeration system operations, the volatility and spiking in SVI measurements appears to have been substantially reduced. As a next step, the PCT will monitor if these improvements can be sustained during the transition from the current dry weather to the upcoming wet weather season.



PCT members from left to right: Mark Koekemoer, Chris Finton, Joyce Cheung, Jean St. Louis, Alan Burleigh. Other staff members join the team when needed for specific tasks or expertise.