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# CMSA Monthly Report

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Central Marin Sanitation Agency

October 2003

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## GENERAL

### Environmental Forum of Marin Presentation

Barry Hogue, General Manager for the Ross Valley Sanitary District, and our general manager will be making a presentation to the Environmental Forum of Marin during their Water/Watershed day. The focus of the presentation will be on "Wastewater 101" which briefly covers the main elements of collection systems, standard treatment processes, disposal of effluent and biosolids, our current regulatory environment, and the different sanitation/sanitary entities in Marin County.

There will also be presentations by the MMWD and NMWD managers on the County's water supply and conservation situation, and current issues. Other topics will include stormwater management, the Russian River watershed, and a panel discussion on Marin's future water supply. The presentations will be on November 5<sup>th</sup> at the Bay Model in Sausalito.

**Recruitments** We have started the process for filling the newly created lead operator position. We have three qualified internal candidates that have expressed interest in the

position and the job interviews have been scheduled for November 13<sup>th</sup>. The interview panel is comprised of experienced operations managers from Bay Area treatment facilities. We anticipate having the position filled by late November.

Steve Egbert, formerly an operations shift supervisor, has accepted the asset manager position in the Business Services group that was approved at the October Commission meeting. Koff & Associates will be assisting in the open recruitment for an Operator-In-Training (OIT) to replace the vacancy in the Operations work group created by Steve's departure. Koff believes that we will have a significant number of applicants for the OIT position and recommends a two-phase testing approach. The first test will be a skills assessment based on the job duties, while the second is a interview panel combined with a demonstration of computer skills. The recruitment will likely start during November.

### **BACWA Biosolids Committee**

The Bay Area Clean Water Agencies (BACWA) is a JPA comprised of EBMUD, Central Contra Costa Sanitary District, East Bay Dischargers Authority, S.F. PUC, and the City of San Jose. It is an active association that monitors and addresses regulatory issues and frequently engages, in a constructive

collaborative manner, the Regional Water Quality Control Board and other regulators to develop reasonable alternatives to what would otherwise be stringent regulations, and represents its members when negotiating permits and other issues. BACWA has about 25 associate members that participate in BACWA activities and are represented in its initiatives, but don't have a vote on the BACWA Board. CMSA is an associate member.

BACWA recently formed a biosolids committee to share information and practices pertaining to the beneficial reuse of biosolids, and begin pro-actively planning for the possible banning of biosolids land application in the greater Bay Area, which is becoming common in the central and southern California counties. The committee will be hiring a consultant to conduct a feasibility study for a regional biosolids processing facility. The study will examine the various processing technologies, their costs, siting a facility, ownership alternatives, and the marketability of the resulting biosolids products. BACWA also has committees for the laboratory, NPDES permit, Operations, Maintenance, Collection Systems, and AIR. CMSA staff generally attend these meetings, which are held

monthly or quarterly, and bring relevant information back to CMSA to share and use in our planning and operation.

**United Way Bay Area** We are concluding what appears to be a successful fund-raising effort for United Way at CMSA. Participation by staff was over fifty percent. The total amount raised was just under \$7,000. This year there was a challenge grant offered by Bank of America. CMSA staff pledges qualified for an additional \$4,000 in challenge grants making a total of \$11,000 for Bay Area charities between CMSA staff and B of A. This years effort included a coffee and pastry breakfast for the UW kick-off and concluded with a pasta lunch for all staff on Tuesday the 28th which included home-made sauces (by staff) along with a raffle of donated gifts. The results, both in monetary terms for the charities and food were satisfying.

Fund raising promotion was low-key. No one was individually approached about the pledging donations. However, the resources were made available so that questions got answered and everyone was kept informed of our progress during the pledge period.

**Safety Inspection** The CMSA Safety Committee completed the annual plant inspection on October 16<sup>th</sup>. The committee members that conducted the inspection

were Jenny Bender (Lab), Tom McMillan (Maintenance), Jean Saint-Louis (Operations) and Kurt Obermeyer (Administration). This inspection took most of the day and the results are being tallied with Safety Director Elayne Haller. As described in the Agency's Injury and Illness Prevention Plan, the findings will be summarized on a safety inspection follow up form and forwarded to the General Manager for review.

**Security** As the newly designated security officer for CMSA, Kurt Obermeyer has been working with Dick Lindgren on getting up to speed with the security detail and procedures of the plant. Last week, Dick, Steve Egbert, and Kurt Obermeyer went on a tour of the Agency's property across Anderson Drive with San Rafael Police Department Ranger Mark Hedeem. This was in response to a new homeless encampment that had been found by the Agency staff. This new encampment has been put on warning by Officer Hedeem that all belongings must be removed by October 31<sup>st</sup> as a clean up of the area will take place immediately following that date. The tour of the hill was quite amazing as the density of the brush certainly allow for these encampments. Staff will work closely with Officer Hedeem to make sure that all activities of the hillside are monitored consistently.

The keyless access system is being installed by CMSA's Russ Turnbull. Much of the

equipment and conduit has been installed. He has bench tested some of the devices, and soon will have the actual locations operable. The magnetic locks for the doors and gate need custom adapters fabricated which are being made by Agency staff. The new security gate to be placed across the plant entry road prior to the parking lot is being built by the fence contractor. We are hoping to have it installed in November. This will give us added security during non business hours.

**CMMS** Steve Egbert our new Contract / Asset Manager has been getting up to speed on what has been done with our new computerize maintenance management system (CMMS) acquisition from "Maintenance Connection". Steve will be managing the implementation and future maintenance of the system. He has been spending time learning how our older system is used and what files will need to be transferred into the new system. The new system has been ordered and will be installed on CMSA's computer network within a week. Kit Groves has prepared a new file server that will handle the CMMS program. He was able to upgrade an existing server that was purchased with the process control system upgrade. Before entering data into the new CMMS, we will spend time looking at how we want our data fields structured and named. This

step is important for ensuring that the CMMS meets our needs and is user friendly. The cost of a new server to meet the needs of the CMMS system is approximately \$2,750.00. By upgrading an existing system Kit was able to save the agency over \$2,500.00.

## CAPITAL PROJECTS

**Outfall Inspection** Parker Diving completed the inspection work on the diffuser section of the marine outfall and reported everything looked fine. Normally, the visibility in the Bay is nonexistent and the inspection work is done by touch, but this time Parker found over 4 feet of visibility at depth and could actually see our riser and diffuser assemblies.

The new diffuser check valves were intact with no damage and there are only four risers that need to be extended. The interior of the outfall was probed for deposited solids and the measurements show that about 18 yards have accumulated at the end of the diffuser section since last year. Maintenance staff have built the riser extensions and Parker plans to install them the first week of November.

### **Cogeneration Engine Replacement Project**

Last month the engine-generator supplier, Stewart &

Stevenson, informed us that the Waukesha engine delivery will be delayed over one month and the control systems delayed nearly 3 months. The engine delay is the result of a labor strike at the Waukesha manufacturing facilities in Wisconsin. We were immediately concerned that these delays have the potential to jeopardize our grant funding rebate from PG&E by affecting the critical path of our construction schedule.

We subsequently sent PG&E a letter requesting an extension of our contract completion date with the rationale for our request being that we have been diligent in moving the project forward and that the delays were beyond the control of CMSA and our project's general contractor. PG&E agreed with our reasoning and extended the project 180 days with the completion date now being September 2004. The general contractor has provided us a revised schedule that has been adjusted for the equipment delivery changes and indicates that they will only be delayed one month, their completion date is now March 12, 2004.

On the construction side, we have received the refrigerated gas dryer which will be installed on the soon to be constructed gas filter pad. All of the underground pipes and conduits which run between the gas filter pad and the engine room have been installed. These include stainless steel piping for the sludge gas to and from the

siloxane removal filters, number three water (plant effluent), drain lines, and power and signal conduits. Their trenches have been back-filled and compacted. The pipes are all stubbed up and framed into position where the equipment slab will be built.

The contractor will start to construct forms for the concrete slab, assemble the reinforcing steel within those forms, and pour the concrete. This should all be done within the next few weeks. Then the action will move to the inside piping.

**Web Page** The management team at CMSA performed a detailed review of the web page and seemed well-satisfied with the page as-designed. We'll be making a decision on making the page generally available in the near-future. We were fortunate in getting permission to offer another educational download called "Baylands Habitat" that we had previously paid to make available on the 1997 CMSA-sponsored educational CD. Now we'll be offering two educational videos and two interactive games with environmental themes. This will conclude phase I. We intend to extend our offerings by the end of the year and have an improved version which will then be maintained and extended by our own permanent staff.

**Plant Capacity** Kennedy/Jenks has been hired to perform a detailed hydraulic analysis of our outfall system and other locations in the

treatment plant that may be first places we overflow during peak wet weather events if our capacity is exceeded. This information will be included in the November presentation to the Commission along with the flow rate increases from our member agencies since plant start-up, and what current or contemplated plans our member agencies have to control infiltration/inflow.

**Dewatering Project (New Centrifuges)** There are two remaining punch list items that staff are working with Centrisys technicians to resolve. One of the issues is a recurring communications fault in the number two centrifuge that has been identified as a faulty Panel View Controller. A new unit is on order by Centrisys. The last punch list item is the inspection of two sets of bearings in the #1 and #3 centrifuges. A Centrisys representative will be inspecting the bearings when the new Panel View Controller is installed. Staff is still able to operate all three centrifuges.

## **BUSINESS SERVICES**

**Audit** We are currently wrapping up all of fiscal year 02-03 financials for the upcoming audit. Again, Vavrinek, Trine, Day & Co., LLC, will be out during the week of November 17 to finish the fieldwork of the 02-03 financial audit. They will have

a report due to the agency on December 2, 2003. They will present the audit report to the commission at their December 9, 2003 meeting.

**Purchasing Policy** Staff has completed the revision of the Agency's Purchasing Policy. After adoption by the CMSA Commission at the October meeting, training immediately took place throughout the agency. The final three employees will be available and training completed by October 31, 2003. This policy will replace General Policy #2, which was formerly the Purchase Card Policy.

**Travel Policy** The commission requested that staff develop a comprehensive travel policy for employees and commissioners at their October meeting. A draft of a new Agency travel policy has been prepared and more adequately covers all expenses incurred while traveling and training on Agency business. This policy will be brought to the November 17<sup>th</sup> Commission meeting for review.

**PERS Actuarial Valuation** The Agency received our annual actuarial valuation report this week that gives us our calculated employer contribution rate for the upcoming fiscal year (04-05). These figures are based on CMSA's actuarial assets and funding liabilities as of June 30, 2002. In essence, the poor economy continues to impact CalPERS plans by causing employer contribution rates to increase.

In CMSA's case, our employer contribution rate will again increase from 8.677% for 2003-04 to 13.368% for fiscal year 2004-05. This 4.691% increase is directly related to what PERS refers to as 'the effect of unexpected changes in demographics and financial results'(investment return estimate of 8.25% with an actual return of -6.00%). CalPERS estimates that the total increase in cost for the *employer* contribution to CMSA will be **\$149,033** for 2004-05 (also assuming a 3.75% increase in salaries).

The only change in the *employee* contribution rate that is paid by CMSA will be equivalent to the percentage increase in salaries. As CalPERS assumes a 3.75% increase in employee salaries for 04-05, the total increase for this portion of the CalPERS cost will be around **\$9,200**. This yields a total estimated cost to CMSA (employer contribution and employee contribution) for 2004-05 of **\$620,891**. These figures will be further analyzed over the next few months as we begin the budget cycle in January.

It should be noted that this rate of 13.368% will increase again as the loss of investment returns will be further amortized for the 2005/2006 fiscal year. CalPERS estimates that the employer rate for CMSA for 05/06 will be 14.9%.

## MAINTENANCE

**Propane Tank** The 12,000 gallon propane tank has been sold and removed from the Agency. Meeder Construction of Fresno purchased the tank and worked with the Agency to accomplish the move. The actual removal took about 2 hours. The tank will likely be resold and put back in service at a new location. The remaining concrete slab base that held the tank is very substantial and is being considered as a foundation for a landscape equipment storage building.

### **Disinfection Project Update**

Maintenance staff has completed the mechanical installations. Electrical and Instrumentation (E&I) staff plan to resume electrical work now that the control panel has arrived. The projected completion date for Phase II of the project has been moved back to November instead of the originally anticipated October completion date. The E&I staff have focused their attention on installing new security measures while waiting for equipment ordered for this project.

A delay in the completion date is not a problem since questions raised by the State Water Board about the continuous chlorine residual monitoring test have been directed to the Regional Board. The Regional Board has been slow in responding because they are currently

recruiting for a new Executive Director. The choice of a new director may impact the response from the Regional Board to the State Board and ultimately the direction of the project.

### **Sodium Hypochlorite Tank (Bleach Tank) Replacement**

One of the five bleach tanks developed a leak last year, was budgeted for replacement, and the new tank was installed in early October. Staff has initiated an inspection program for the remaining four tanks due to the failure of the one tank. Staff has inspected two of the remaining tanks and found no abnormalities. The remaining two tank inspections should be completed by the end of November (this requires the tanks to be emptied prior to the inspection). We will update the Commission in December as to the condition of the two remaining tanks.

### **Secondary Clarifier and Dissolved Air Floating (DAF)**

The contractor has finished coating both the secondary clarifier and DAF units. Maintenance staff completed reassembly of the secondary clarifier on 9/26/03 and this unit is back in service. Maintenance started reassembly work on the DAF the week of September 29, after the paint cured the required 7-10 days. During the reassembly of the DAF additional parts were needed which delayed reassembly. The unit was completed and put back in service the last week of October.

**Bioassay pH Adjustment** Staff completed design and installation of the pH equipment that will control the pH of the tank water for the bioassay test. This equipment will allow us to adjust the pH of the effluent that is used in the bioassay test in order to eliminate ammonia toxicity that occurs during the warmer months of the year.

## OPERATIONS

### **Polymer Optimization Test**

Last month this project was outlined and a tentative date to start testing was listed as October. The first tests were conducted on October 27<sup>th</sup>. Two emulsion products were tested and failed to exceed the existing operational performance standards of the manic polymer we are currently using. There are many different brands of polymer and the operations department will continue to investigate other products in our ongoing efforts to achieve better and more cost effective centrifuge performance. We have tentatively set another testing date for the end of November.

### **Ferric Chloride Addition to Enhance Process Performance**

Recently, the primary clarifiers started getting upset (sludge failed to compact normally which can result in some carryover of solids but is not an immediate concern

regarding meeting permit requirements). However, upset primary clarifiers can impact other down stream unit processes resulting in higher energy and chemical costs. To correct the problem the operators began adding ferric chloride at the headworks. The ferric chloride is normally used at this facility as an aid for coagulation during storm events that result in short term high flow conditions. These high flows can reduce process holding times and potentially result in a decrease in effluent quality. At other plants ferric chloride is successfully used to improve performance of primary clarifiers that have reached design capacities, as an aid in meeting emissions requirements in cogeneration facilities, and to assist in odor control.

Process upsets of this kind are not infrequent and in the past have required up to three weeks to normalize. While the primaries are returning to a normal state, the operators pump greater volumes of watery primary sludge to the digesters decreasing the hydraulic detention times in the digesters and possible decreasing methane gas production that is used as a fuel source in the cogeneration engine.

However, in five days of ferric addition we have stabilized the primary clarifiers and minimized increased pumping to the digesters. Other benefits that can be gained from the addition of ferric

chloride at the head of the plant are increased settling in the primary process. This may reduce loading on the secondary process and reduce electrical costs to operate the secondary system. An increase production of sludge in the primaries will generate greater volumes of methane gas for the cogeneration engine. This translates to a reduction in the amount of natural gas purchased to run the engine.

Ferric addition removes sulfides in the methane gas and reduces air pollution from the cogeneration engine during the combustion process (allowing the engines to meet stricter engine emission requirements). Reduced sulfides in the methane gas equates to reduced engine maintenance (longer run times between oil changes). Smaller quantities of sulfur in the methane gas results in longer runs time for the iron sponges (designed to remove sulfides in the methane gas) and reduced maintenance costs (media replacement). Finally, ferric chloride addition reduce odors in the primaries. Subsequently, we may be able to offset the additional cost of ferric chloride addition by a decrease in the usage of hydrogen peroxide.

As a test, staff will continue the addition of ferric chloride for a short period of time during high influent flows accompanied with a gradual reduction of hydrogen peroxide at the plant peroxide station. We will assess the economics of the ferric addition after the test.

## LAB/ INDUSTRIAL WASTE

**Bioassay** We have received the written approval for bioassay pH adjustment from the Regional Water Quality Control Board. The system has been installed and a short test was run to confirm its operation. The recording equipment will be installed shortly and the system will be complete and ready for further testing and operation. Due to the lack of rain our ammonia levels have remained at elevated levels keeping the unionized ammonia (the toxic form of ammonia) in the middle of the toxicity range, but our fish survival has remained 95%.

**Lab Testing** In order to report laboratory analysis for NPDES and EPA compliance we must maintain Environmental Laboratory Certification through a division of State Health. Part of the certification process is analyzing samples with unknown concentrations of the compounds we test for in our laboratory. We must be able to get very close to the actual amount of compound in the unknown sample and they let us know the results a few weeks later. If we "pass" or get very close to the true value we do not need to repeat the testing for a year. If we "fail" we must write a letter explaining why we failed and repeat the analysis. If we

fail again we can be put on probation or lose our certification. We received the results back from our plate count results which is part of our bacteriological analysis and we passed all five samples. We will receive the rest of the bacteriological results we were required to complete in early November because the part of the study does not close till the end of October.

Our NPDES testing showed no violations last month and our comprehensive semi-annual reporting from Sept. sampling is complete. We will stop land applying the biosolids on October 31 and they will be sent to Redwood Landfill during the rainy season.

**IV** Pursuant to section 13267 of the California Water Code, new Sanitary Sewer Overflows (SSOs) Reporting Requirements will be established and the required elements and submission schedule of a Sanitary Sewer Management Plan (SSMP) will need to be implemented. Bob Adamson and Robert Cole met with Al Petrie and several other staff members at Las Gallinas Valley Sanitary District where Bob presented a Fats Oil and Grease (FOG) presentation. Part of the SSMP will be a FOG control program to reduce the amount of SSOs caused by blockages in the collection system as a result of the accumulation of fats, oil, and grease. The

presentation described the options available to control their release to the collection system and how to implement a monitoring program for food preparation facilities. LGVSD would like to develop a FOG program because of problems they have experienced with blockages in their collection system.

LGVSD expressed interest in assistance from CMSA in setting up a FOG program to reduce SSOs and have the program in place prior to the regulatory requirements. The LGVSD laboratory director and pollution prevention coordinator position has not been filled with a full-time permanent position so they are interested in having CMSA maintain and organize their current pollution prevention program. We have assisted LGVSD in the past and developed or assisted in the development of their programs which are modeled after our program. A contract and estimated budget have been developed for implementation and maintenance of a FOG program and for the organization and maintenance of their current pollution prevention program.

