CMSA Newsletter

Central Marin Sanitation Agency **August 2004**

GENERAL

Strategic Business Plan

The implementation phase of the project is scheduled to begin on September 1st with a meeting between Red Oak and our internal planning committee. The purpose of the meeting is for Red Oak to provide guidance to our staff for drafting strategic actions that make sense, are measurable, and time dependent. The strategic actions are tasks, plans, and activities that support our business plan's objectives and goals, and are aligned with our organization's Mission and Vision.

We have developed an internal schedule for the next few months in which our planning committee will routinely meet to brainstorm, discuss, and reach agreement on each objective's strategic actions. Each action will have a responsible party and an associated time frame for implementation.

Our plan is to bring a final draft of the strategic plan to the December 2004 Board meeting for review and comment, with the eventual goal being adoption at the January 2005 meeting.

Regionalization Study

Red Oak Consulting presented an overview of the study's scope of work and schedule during the project kick-off meeting at the July 13th Board of Commissioner's meeting. They also distributed a questionnaire and requested that the Commissioners distribute it to their respective member agency managers. The questionnaire solicited comprehensive organizational information in the areas of technical, administrative, financial, and legal/political.

The schedule showed the phase I work being completed by early September with a presentation on the findings at the September Board meeting. Phase I is an assessment of the current governance structure of the JPA, and includes identifying its inherent strengths and weaknesses. The assessment and presentation were dependent on the information from the members being submitted by the end of July, and Red Oak conducting field investigations and interviews during August. Unfortunately, these events did not occur per the schedule resulting in the phase I presentation being pushed to the November Board meeting.

Phase II commences with a Board workshop to select several regionalization scenarios for change. These will then be analyzed and compared to the current structure. Red Oak has requested we schedule the workshop so the phase II schedule can be finalized. A discussion on the workshop schedule will be agendized for September Board meeting.

Recruitments

The recruitment for our new project engineer has entered its final stages. We have selected the top nine candidates, out of 25, for interviews on September 8th. Tom Rose (engineer), Nathan Brennan (plant manager), and Ana Bernardes (RVSD engineer) will be assisting with the interviews that will be facilitated by our HR consultant, Koff and Associates. We plan to have second interview of the final candidates during the week of September 13th, and hope to have the top candidate selected by the end of that week. Tom Rose, our staff engineer, is retiring on October 7th. There should be about one week of transition time for the new engineer that is replacing Tom.

We have met and conferred with MAPE on a revised job description for new maintenance hires. There has been a vacancy in the maintenance work group for several months and we were interested in making a few changes to the job description before the recruitment. The revised job description will be brought to the Board at their September 14th meeting for

consideration. If approved, we will start a recruitment in late September.

Reclaimed Water

Earlier in the year, Joe Garbarino from Marin Sanitary Service (MSS) expressed interest in using CMSA's reclaimed water for dust control at the MSS's transfer station and recycling facility. Reclaimed water is regulated by the Regional Water Quality Control Board and must meet enhanced disinfection standards (Title 22). A permit to use the reclaimed water, which stipulates the water quality requirements in Title 22, must be obtained prior to CMSA providing MSS the water.

Staff has completed a program that assessed what is needed to provide MSS with the water. Our findings are: (1) Providing the water is feasible; (2) MMWD has an open permit with the Regional Board that can be used for MSS' needs; (3) We have a loading facility that can be used to fill the MSS water truck; (4) We can provide water that meets the MMWD permit requirements.

Joe Garbarino and our General Manager have agreed to an arrangement under which CMSA will provide water during the spring and summer months in exchange for MSS maintaining the access road on our hillside property, repairing a large landslide on the property, and assisting in cleaning up future homeless encampments. We will audit the arrangement in 1.5-2 years

CAPITAL/ ENGINEERING

Capacity Management Study

Staff has completed reviewing the proposals and receiving presentations from the top three engineering consulting firms that previously advanced through the screening phase of our evaluation process. These were Montgomery Watson Harza (MWH), Dodson Engineers, and Carollo Engineers. After a thorough evaluation using twelve weighted criteria, Carollo engineers was the top firm by a thin margin. We intend to recommend to the Board at their September meeting that Carollo be hired to perform the study.

The study has two phases. The first phase analyzes our influent flowrates and service area rainfall data for the past several years, and uses this data to develop a calibrated hydrograph. The hydrograph is used to predict peak flows given several rain event intensity/duration levels (2, 5, 10, 50 year storms). These flows are then used in phase II are the basis for sizing storage and pumping facilities to assist us with managing our peak wet weather flows. Carollo also plans to perform a hydraulic analysis of each unit process in the treatment plant to determine their maximum hydraulic and treatment capacities. The tentative schedule is to have the study completed by April 2005 in time to budget for potential improvements.

Forcemain Model

In March 2004, Nolte Engineering was hired to develop a hydraulic model of the CMSA forcemain system, which is comprised of our member agency's pump stations and pipelines that convey wastewater, under pressure, directly to the CMSA treatment plant. Our objectives for this effort were:

(1) Determine the maximum flowrate and volume of wastewater that can be pumped to CMSA by each member agency given their current and future planned infrastructure.

(2) Obtain a steady state hydraulic model of the forcemain system that can be used as a tool for future system evaluations and planning activities.

(3) Use the information as boundary conditions in the future CMSA capacity management study and as a worst case scenario for contingency planning in the CMSA Wet Weather Operating Procedures Manual.

Nolte completed the model and presented the preliminary

results to the JPA manager group at their July 14th meeting. The result were that 125 MGD could be pumped to CMSA if all "design" pumps were operating, and 155 MGD could be pumped is all design and back-up pumps were at full output. These flowrates well exceed our hydraulic and treatment capacities.

Nolte informed the JPA managers that the model's results are real, however, it is not a dynamic model, in that it doesn't account for hydrological factors (storm patterns, rainfall intensity), or the rate of I/I. Additionally, it doesn't consider the condition of the gravity systems or determine the probability of them conveying the worst case flows to the pump stations. The model simple presents maximum flowrates given the installed pumping systems and pipeline characteristics.
The primary action from the meeting was to hire Nute Engineering to perform a peer review of the model's construction, the assumptions used in its development, and the results. Nute has completed their review and found that the model reasonably predicts the theoretical flowrates, and confirms the scale of the results using field measured pressure and flow data from recent major storm events.

Comments on the preliminary model from the managers and Nute will be incorporated into the final report, which is scheduled for delivery in early September.

Surplus Equipment Sale
At the July Board meeting we received authorization to sell the existing cogeneration system gas compressors and the engine-generator. We recently advertised the sale of the compressors and received a bid from McKenna Engineering. After a brief negotiation session, the deal was sealed for $16,000. McKenna is the vendor that is providing the new compressors for our cogeneration engine replacement project.

We will attempt to sell the engine in the near future. If we cannot find a buyer, the contractor will off-haul and dispose of the engine as part of the contract work.

Cogeneration Project
Everyone on the cogeneration project is highly aware of the deadline for the PG&E grant. The contractors and equipment vendors have made commitments to have the engine ready for testing by the end of this week and they appear to be making good progress along these lines. The electrical subcontractor has made great strides and has been working 10-hour days, 7-days a week in order to complete their work and have it ready for testing. The prime contractor which is managing the mechanical side has put all of the exhaust system components in place. While there are a few corrective items and small details that need attention, they look like they will also be ready, or at least close, to meeting their September 6 goal.

Things have not exactly gone without a hitch. Fortunately field technicians from both Stewart and Stevenson (the Engine supplier) and Encorp have been knowledgeable and forthcoming in assisting the contractors for both correct mechanical set-up and wiring. We had pursued (perhaps "hounded" is a better word) the control panel supplier (Encorp) about getting the details correct on their wiring diagrams used by the electricians to make terminations. Not untypical of the submittal review process, we'd typically get back revised submittals that might contain most (but not all) of the corrections requested by our review team. After several iterations of correcting these diagrams we gave up on the submittal process and are now relying on the field advisors from Encorp along with the Stewart and Stevenson field advisors to help with wiring conflicts and identify and correct these problems in the field. This last resort seems to be working and the electrical subcontractor has stopped complaining about the documentation. We will have corrected documentation issued by the field technicians at the end of the week before they depart the job site.

There have been a few problems on the mechanical side. The kind that tend to make staff and contractor alike run around with hair-on-fire, but these have mostly turned out to

be not as big as they seemed at the point of discovery. For example, the Stewart and Stevenson field technicians expressed their concern that the two engine-mounted pumps used to circulate coolant were not adequately sized. On further discussion we discovered that the hydraulics of these pumps had not been compared with piping and equipment restrictions by constructing a 'system curve.' As it turned out, some relatively minor changes to the piping in one area makes the use of the existing pumps workable. This is the kind of thing that could have blown into a much larger engineering challenge involving additional controls, motors, pumps, and other components in order to boost the hydraulics through the heat exchangers and heat recovery unit. Fortunately, a backward look on the system provided a simple solution and we are grateful for that.

On the administrative side CMSA has submitted a request to operate the engine to the Bay Area Air Quality Management District. They have said they will issue the permit. We must then follow up with a verification of compliance with emissions by exhaust testing within 60 days to fulfill our permit requirements. Two important applications have also been submitted to PG&E by CMSA staff.
Assuming the contractor is to come reasonably close to meeting the goal of electrical and mechanical work, we must then get our process control systems integrator in to verify that the computer end of things is set up properly and that should happen in the next few working days. Then there is the testing of protective relays that need to take place as soon as possible. Again, assuming the completion of the electrical work by September 6th, the testing contractor should be on-site testing relay settings which need to be codified in test reports to PG&E prior to the pre-parallel testing. The pre-parallel testing will be witnessed by PG&E and must verify proper operation of the protective relays before we are given approval to go on-line.

Primary Clarifier Coatings Project

The apparent low bidder on our project was initially a bit slow in getting the contract documents signed and returned to us. Our contractual limit is 15 days and they took about 25 days. However, their product submittals soon followed along with an acceptable schedule which shows completion by October 8th. Within a few days of that they were on-site and appear to be doing outstanding work. The 2-man crew that showed up is excellent and we have had no quality problems. This crew has been very careful about containing blast media dust and errant epoxy sprays by completely covering their work areas where most of the blasting and spraying is taking place.

BUSINESS SERVICES

Finance

At the June 8, 2004 Commission meeting, the Board adopted the fiscal year (FY) 2004/2005 budget. The operating expense section of the budget had been significantly revised from prior year's format. The new format is departmental based (replacing the old organizational format) and has individual staff members responsible for the management of each account.

Two accounting related activities were implemented in August, to support the budget changes. First, our accounting system was modified to produce operating expense reports for each department. The reports provide department managers the comprehensive tool they need to better manage operating expenses. Second, budget transfer procedures and forms were developed to provide a means were budget monies can be transferred between individual accounts. Movement of budget funds between accounts during a fiscal year, provides a mechanism to more accurately predict future budgets.

Contract Management

Within the current Nitrate Salt Supply Contract provisions requires CMSA to calculate delivered nitrate salt quantities by the gallon, and make payment to the vendor based on delivered gallons multiplied by the contract unit cost. The nitrate supplier invoices CMSA based on the

net weight of the delivered product, converted to gallons. At times, CMSA's delivery calculations and the vendors calculations have not correlated, which can make delivery payment reconciliation difficult.

In August 2004, CMSA and our nitrate vendor, US Filter, agreed to amend the contract to specify that payment will be based on vendors delivery invoice based on weight unless CMSA's delivery calculation in gallons is less. The lowest calculated delivery quantity, either by vendor or CMSA, will be the basis for payment. The changes will reduce the time required to process deliveries and payments, and ensure the Agency is not being overcharged. The amendment was approved by the Commission at their August meeting, and executed soon thereafter.

Safety

The Agency's Safety Committee is currently implementing tasks identified as part of the annual treatment plant and pump stations safety inspections. Currently, the committee members are involved in coordinating with pump station personnel the implementation of the safety improvements that have been approved by Sanitary District #2 and the City of Belvedere.

Security-Open Space Inspection

During the last couple of months, CMSA staff reported they had seen homeless persons walking on trails located on CMSA's open space property. Following an inspection by Officer Mark Hedeen of the San Rafael Police Department, General Manager Jason Dow and Business Services Manager/Security Officer Robert Niccolai, several followup activities were identified and are currently being implemented. The status of the activities are as follows:

Officer Hedeen has twice inspected the property to vacate two homeless persons identified during past inspections. Officer Hedeen was to notify CMSA if any clean-up was needed following the exiting of the premises by the homeless persons. To-date, we have not been notified by Officer Hedeen of any cleanup activities needed.

We have coordinated with Marin Sanitary Service (MSS), who owns the property adjacent to our open space property, to repair a 100-foot section of our fire road that had slid down the hill. MSS will reinforce the road to ensure no future slides will occur and remove the high grass evident on most of the fire road. Clearing and repairing of the road will provide CMSA the means to perform more frequent open space inspections.

The maintenance department is evaluating several alternatives to cut down high grass located around the two v-ditches on the hillside that run parallel to Andersen Drive. The high grass around the v-ditch allows homeless persons undetected use of the ditch, as a trail.

OPERATIONS & MAINTENANCE

Maintenance Position Recruitment

We will be working with Koff Associates to recruit for the Maintenance vacancy. Considering the time to advertise, review applications, interview, select and process... the new person should be helping out by Christmas.

New Treatment Plant Manager

I would like to thank all of you for helping me learn about CMSA and my position. It is refreshing to join a group that cooperates and helps each other get the job done. After 31 years in San Francisco, with 4 years off for college and 2 years on a USAID job in Alexandria, Egypt, I am enjoying being in an organization where I can walk across the plant in a few minutes and expect to learn everyone's name. (Although it will take me a little while, and I apologize if I cross up your name.)

Waukesha Training

Two maintenance technicians will attend the Waukesha training back in Wisconsin, which is a commitment we

made with Waukesha to obtain a 3-year warranty for the new engine-generator. We are all watching as the contractor rushes to get our unit on line. E/I helped get the Reverse Power relays in during the shutdown on the 31st.

Sludge Grinder
The new Muffin Monster grinder has started up successfully and is working well. Final step, e/I staff will tie it to the plant control system and interlock it to the centrifuge sludge feed pumps.

Aeration Diffusers
We replaced the diffuser membranes for aeration tanks #1 and #2. The new diffusers membranes are providing much, much better oxygen transfer rates. Thanks to Doug, Virgil and Steve K. For helping Maintenance finish these tanks quickly.

Centrifuge Performance Work Plan
We started checking centrifuge performance with machine #3. The testing started using the same parameters Centrisys, the vendor, used to pass the performance testing. This time it did not look as good! Now, we will test all the parameters to optimize performance. Thanks to Jean St.Louis for taking on the majority of the performance operations sampling (thanks to the Lab for processing these extra samples). We'll discuss results next month.

Stepping Up
Thanks to Byron Jones and to Steve S. For helping out while Sanova and Bill are off. Byron is keeping Admin up and the grounds, Steve is coordinating and inspecting the primary clarifiers coating for Bill.

Park Place, I mean BOARDWALK
Maintenance replaced both pumps in stations A and B in the Greenbrae Boardwalk. We are ready for another winter. Communication had to be reestablished for San Pedro pump station, the neighbor's landscaper appears to have nicked the phone line. After a new trench and conduit and we are back in service.

ENVIRONMENTAL SERVICES

MMWD Desalination Assistance
We have provided extensive data to Kennedy/Jenks, a consultant proposing on their pilot project RFP, on our biosolids testing at CMSA. MMWD would like to dispose of the sludge from their pilot plants pre-treatment systems at CMSA. MMWD and their consultants understand that we need to be assured that their sludge will meet our biosolids limits for land application and landfill cover use.

Kennedy/Jenks requested the information, and were provided with detailed sampling and analytical requirements. We also provided them with information on the flow-through bioassay testing we do at the plant, and the semiannual bioassay testing that is required in our permit that is sent to an outside laboratory.

NPDES Testing
The NPDES testing we performed at CMSA in July was in compliance with our permit requirements. The results for August have not been received from our contract commercial laboratory.

Laboratory Certification Testing
We passed all of the unknown quality control samples for chemical analysis that we received to maintain our laboratory certification. This demonstrates the high level of accuracy achieved by the laboratory staff in performing the required methods.

In order to maintain certification to test wastewater, environmental laboratories must analyze performance evaluation samples of unknown concentrations. We have to find out how much of a specific compound the sample contains within narrow control limits. We are required to submit our chemical testing results to the Federal EPA and Environmental Laboratory Accreditation Program (ELAP), a division of State Health. This year we combined the testing for both

regulators requiring only one set of unknown samples, which saved CMSA $900.00 in the cost of the samples as well as the time of the analyst and laboratory director to run the samples and submit the paperwork.

If we achieve the high level of accuracy required, we only have to analyze one set of samples for each regulator (EPA and ELAP) a year. If we do not meet the required confidence interval, we must submit a letter with the reason why we did not achieve the required results, what we have done to correct the problem, and re-analyze additional samples. Each classification of testing such as drinking water, wastewater, and hazardous waste requires certification testing and each field of testing requires analysis of a set of samples (including chemical, bacteriological, organic, inorganic, radiological, specialized research, in both liquid and solid matrices). For CMSA, we are certified for wastewater covering chemical analysis and bacteriological analysis. Commercial labs have sets of samples for each classification and each field of testing requiring almost a continuous certification process.

Bioassay Test

We had 100% survival of the fish in the August bioassay. Every month we are required to perform a 96-hour bioassay that runs continuously from Monday to Friday. The purpose of this test is to assess the effects of our effluent on the survival of rainbow trout.

Biosolids

Land application continued during the month of August and we expect to land apply our biosolids untill the end of October. Our bi-monthly biosolids testing during land application demonstrated that we meet all of the regulatory requirements.

New Department Staff

Devina Douglas accepted our offer of employment, as an industrial waste inspector/laboratory technician, and began working at CMSA on August 23. Ms. Douglas has a B.S. Degree from Cal Poly San Luis Obispo in Microbiology, and more than two years experience working for the City of San Luis Obispo in the wastewater laboratory and doing outside environmental monitoring.

Peacock Lagoons

We have assisted the City of San Rafael on this program since it was established by ordering the necessary sampling and testing equipment, training their personnel, and performing annual cleaning/calibration/retraining activities.

Recently, City personnel were having problems with the accuracy of their pH meter during their calibrations, and brought it in for us to troubleshoot. We investigated the problem and discovered the probe on their meter was failing. We cleaned and made minor adjustments to the probe in an attempt to keep it working till the new probe we ordered is received

LGVSD Assistance

We have drafted a letter for LGVSD to follow-up on the restaurants in problem areas of the LGVSD collection system requesting information on the frequency of cleaning of their grease trap or interceptor, a copy of a receipt for the most recent pumping/disposal, and the design size of the grease trap or interceptor. We also developed an inspection form to be used during the inspections of food service establishments.

We also drafted a letter for LGVSD to Guide Dogs for the Blind requesting a meeting to discuss their plans to reduce the stormwater discharge from their facility. The meeting should be scheduled by September 30th and they were given a 2 ½ year time period to prepare and implement a plan to cover the large dog yards that discharge to the sanitary sewer. This is causing elevated flows in the area and adding to the normal higher flows the plant receives during the rainy periods.

LGVSD had a meeting with Culligan/Marin Refined Water Systems who services water softening systems and is located in their service area. We have been doing testing and enforcement of the

chloride limits established by LGVSD to ensure the quality of their water for re-use at the Marin Municipal Water Districts reclamation plant. The waste from regeneration of the water softening tanks produces extremely concentrated salt solutions that greatly exceed the chloride limits established by LGVSD. They have agreed to meet the compliance schedule established and off-haul a large percentage of the salty waste they produce. Additional monitoring and hauling receipts will be required to ensure their pretreatment efforts are successful.

Public Outreach

We participated in the Canal Kidfest at Pickleweed Park on August 28th. It is a major outreach to the Hispanic community in the canal area of San Rafael, and is sponsored by the Canal Community Alliance. We have translated our environmental quiz into Spanish for the event and handed out approximately 80 quizzes. It also gave us an opportunity to educate many of the parents on the difference between sanitary sewers and storm drains, and inform them to not dispose of anything hazardous down either one.