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# CMSA Monthly Report

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Central Marin Sanitation Agency

April 2004

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## GENERAL

### Spring CASA Conference

The spring CASA conference was held in the Lake Tahoe area on April 29<sup>th</sup> & 30<sup>th</sup>. The highlight of the conference included summaries of the air, land, and water regulatory issues, a presentation of SB 1272 by Peter Detwiler from the Senate's Local Government Affairs Committee, and a rate discussion by former CMSA Commissioner Jean Mariani, who now is the SFPUC's acting Director of Finance.

The land issue forum focuses on biosolids management programs, CASA's continuing effort to educate the regulators, politicians, and the public on the beneficial uses of biosolids, and the current national and state regulatory and legal issues relating to biosolids disposal. The State Water Resources Control Board has completed the EIR and amendments for the land application of biosolids and identifies Class B, which is the type produced at CMSA and the vast majority of treatment facilities in the State, as the preferred alternative. Class B will likely remain in the State's General Order, which is the regulatory guidance document for land application.

Mr. Detwiler briefed the CASA membership on the amended version of Senator Debora Ortiz's legislation, SB1272, entitled "Special District's Integrity and Accountability.

The revised legislation contains provisions that limit Board member compensation to \$100/day's service, prohibits benefits, and requires additional auditing requirements. The legislation also includes whistleblower protections and mandates ethics training for board members and district managers. Mr. Detwiler stated the bill is still in draft form and he anticipates it will be passed in August 2004. Several of the CASA members expressed concerns on the roll-back of the stipend amount to 1984 levels. The response was that Senator Ortiz is very firm about the \$100 figure.

### SD#2 Pump Station Contract

The pump station O&M contract with Sanitary District #2 (SD#2) was recently approved by the Commission after several months of discussion and negotiation with SD#2 staff and their legal counsel. The contract was subsequently brought to the Corte Madera Town Council, which also serves as the District Board, for approval in their consent calendar. A member of the council pulled the contract from the consent calendar and had questions pertaining to the continuance of indemnification and liability if CMSA breached the contract. Needless to say, the contract was not approved and was sent back to staff with requested clarification that may require additional revising.

We met with SD#2 staff to discuss the Council's concerns and advised that CMSA has no problem if the language needs to

be modified. Apparently, the manager did not inform the council of the ongoing contract revisions and negotiations, and the first time the Council saw the contract was in the consent calendar. SD#2 is working with their legal council on the issue. If any changes are made the contract, it will be brought back to the Commission for approval.

The draft FY05 budget for the District has been prepared and submitted to SD#2. Budgeted revenue for CMSA for the contract services is approximately \$260,000. Staff have been trained on the new contract provisions and reporting requirements, and are proceeding with administering the contract as if it were approved.

### Recruitments

We are currently recruiting for a Treatment Plant Manager and Laboratory/Industrial Waste Technician. Koff & Associates, a human resources consulting firm, is administering and coordinating the recruitment efforts. The plant manager advertisement period has begun and will close at the end of May with interviews of the top candidates scheduled for mid-June. We expect that the position will be filled by August. In the interim period, the General Manager will be supervising the plant manager's subordinate staff, all of whom are seasoned wastewater professionals and have stepped up to take on

additional responsibilities during the recruitment period.

The Lab/IW tech recruitment will concentrate on attracting an individual with significant source control (industrial waste) experience. The top candidate will spend about 75 % of their time administering CMSA's pretreatment and pollution prevention programs and assisting with the LGVSD contract services. The remaining 20% of their time will be performing laboratory related activities. The recruitment schedule is similar to the plant manager's.

#### **Wet Weather Operating Procedures Manual**

Operations and process control staff have had their first workshop with CH2MHill to kick-off the procedures manual development project. Staff provided our revised wet weather standard operating procedures, the new monitoring program, the operation/maintenance on-call provisions, and the Kennedy/Jenks outfall hydraulic model. These documents and the forcemain model being developed concurrently by Nolte Engineering will form the basis for the Operating Procedures Manual.

The kick-off meeting discussions centered on the staff's experiences and challenges with operating the treatment plant during peak wet weather events, and an overview of the plant's unit process operation. We believe it is critical to capture our staff's experiences since these have not historically recorded, and

will provide valuable insight to aid in the manual's preparation. A second workshop is scheduled for mid-May and the manual should be completed by September.

#### **Safety - Pump Station Inspection**

The annual pump station safety inspection by our safety committee took place on April 29, 2004, for the Sanitary District stations. Several minor safety problem areas were identified. Steve Egbert, the Safety Committee Chairperson, will work with the Committee to complete an inspection report and provide recommended improvements for areas of concern. The date for the Belvedere pump station inspection will be coordinated during the Safety Committee meeting scheduled for the week of May 10, 2004.

## **BUSINESS SERVICES**

#### **Strategic Business Plan**

We have begun the SBP process with a kick-off meeting between the Red Oak consulting team and our internal planning committee, which is comprised of eight managers and supervisors from the Agency's core functional areas. The meeting went well with positive contributions from staff on their ideas for improving CMSA. Red Oak has also conducted two "Staff Awareness" workshops with our employees that are not on the planning committee. These workshops focused on the overall SBP process, the goal of the SBP, and definitions of the various SBP terms. Additionally, mechanisms were discussed for

staff to provide confidential input and to contribute to the SBP development.

Red Oak has interviewed staff and our member agency managers to understand their perspectives on the CMSA organization, culture, and direction for the future. The findings from the interviews and comments from the initial workshops have been used to identify our strengths, improvement opportunities, weaknesses, and threats. These will form the basis for developing organizational goals.

The staff committee met after the Board's Vision/Mission workshop to review the draft vision and mission statements that were prepared by Red Oak and based on the Board's workshop activities. To begin the discussion, Red Oak led us through an exercise to evaluate our existing archived mission statement, which concluded that it would be challenging to implement due to it being a combination vision/mission and containing elements of goals and objectives.

Our committee then word smithed the draft vision and mission to produce the revised statements below. We are currently preparing draft organizational goals that support the revised mission/vision, and will meet again with Red Oak in mid-May for a goal setting workshop.

***Vision:*** "CMSA strives to provide wastewater treatment and disposal services in an efficient, effective, and

*environmentally sensitive manner, in partnership with our member agencies and their customers”*

**Mission:** CMSA will achieve its vision by:

- ▶ *Operating and maintaining the WWTP and related facilities in a sound, efficient and effective manner*
- ▶ *Maintaining a workplace that fosters professional growth and job satisfaction.*
- ▶ *Protecting its assets and investments through sound financial policies and practices*
- ▶ *Improving service through long-range planning and wise use of technology*
- ▶ *leading the discussion of strategy development for regional wastewater issues to the benefit of all customers*

### **Budget**

The FY 2005 & 2006 budget process is continuing and is on schedule. The operating budget detail & summary, capital budget and 5-Year forecast documents have all been completed. Overall budget analysis and recommendation documentation are in progress and scheduled to be presented to the Board, along with the financial documents, at the May 11, 2004 Commission meeting.

### **Hydrogen Peroxide Contract**

The Hydrogen Peroxide Contract expired April 28, 2004. The Board awarded the contract to Univar USA, the responsible low bidder, during

the April 13, 2004, Commission meeting. The contract execution is outstanding pending the review of the safety training curriculum. The execution package is scheduled to be sent out by Friday, May 7, 2004.

### **Polymer Contract**

A recommendation will be presented to the Board at the May 11, 2004, Commission meeting, to execute a one-year extension of the current Polymer Supply Contract, with the existing supplier, Polydyne, Inc. The current polymer contract with Polydyne will expire June 30, 2004 and the supplier has offered to extend the contract, with the existing contracted provisions and costs, until June 30, 2005. Stated policy dictates that a new contract would be put out to bid, however, the following mitigating factors make a contract extension a more efficient and economical decision for CMSA:

- Polydyne, Inc. is the only manufacturer / supplier of mannich polymer on the West Coast
- Current contract / extension dollar unit cost is competitive with market conditions

### **Sodium Bisulfite Contract**

The current CMSA Sodium Bisulfite contract will expire June 30, 2004. Sodium Bisulfite bid packages were sent out on April 26, 2004, to five prospective bidders and advertised in the Marin Independent Journal. A pre-bid tour will be conducted at 10:00am on May 10, 2004 and bid opening will take place on May 17, 2004.

### **Biosolids Hauling Contract**

The current Biosolids Hauling contract will also expire June 30, 2004. The Biosolids Hauling bid package is being finalized and will be sent out no later than Tuesday, May 11, 2004. Pre-bid tour and bid opening dates are being scheduled.

## **CAPITAL/ ENGINEERING**

### **Co-generation Project**

There has been a lull in the construction, but not in the admonishments to the engine supplier, Stewart and Stevenson. The contractor, SR Hamilton, simply ran out of work that they could do. So they left. They are gearing up to complete assembly on three components of the exhaust system and will return sometime this week to begin that effort. Meanwhile we've received delivery of our long awaited-Dollinger particulate filters so that will make available two more items with which to fill in the gaps of the sludge gas piping system.

The three components of the exhaust system are the heat recovery unit (a 20 ft. vertically-mounted tank sitting in-place next to the new engine), the silencer (read that as "muffler"), and the exhaust piping itself.

There was a problem with the silencer being a little longer than anticipated. It was originally intended to hang vertically from the ceiling in the engine room, but had it been constructed per design it would have needed to go through the roof. After some thought, we decided to put the

silencer up on top of the roof. In some respects this simplifies installation since the contractor now does not need to suspend this 4,000 pound muffler from the walls and ceiling. There are handily two large reinforced concrete beams beneath where the car-size object can sit and serve as a cradle.

The heat recovery unit (the 20 ft tower) is what qualifies the engine generator as a "cogeneration" system. It is central to heat recovery. Exhaust from the engine goes in (at about 1100 degrees Fahrenheit and comes out several hundred degrees cooler after transferring heat to the coolant. The coolant water is then used to heat our anaerobic digesters and provide space and water heating throughout the plant.

The silencer (muffler) is basically a completely sealed (except for an inlet and outlet) welded stainless steel tank with internal baffles. It is a passive device with no moving parts. We have such mufflers on both the existing engine and the emergency generator. These are both mounted inside of the engine room. They have never required any maintenance. However, if this one does, we can easily get to it on the roof.

The exhaust piping is all made of stainless steel. The piping system includes some flexible couplings which are bellows-shaped tubes that allow for some displacement in-line with the piping and across section to accommodate expansion and contraction in the piping configuration. All of this will be insulated, but not to protect the

piping as the unrecovered heat all gets dumped into the environment anyway. However, it is needed to protect the roof materials and any people who happen to be up on the roof sight-seeing.

The Dollinger filters, the last large deliveries on the mechanical side, arrived on Monday (May 2) are intended to remove any particulates that may be present in the sludge gas. We have similar (though smaller) particulate filters on the natural gas side, we expect to see far more particulates in the sludge gas. These two filters weigh in at about 1,200 lbs each.

The last components, which by their earlier announcement should be here, will be the tube style heat exchangers. Now would be a good time for them to arrive as the contractor is coming back on site to do the exhaust work and install the particulate filters.

#### **Pump Station Flow Meters**

CMSA is teaming up with member agencies in order to get a handle on flows coming into the facility. These are needed primarily for wet weather and will benefit both CMSA and member agencies in identifying, tracking, and resolving infiltration inflow problems in the collection systems. The data from the meters will also serve to help CMSA appropriately dose with nitrate solution to control odors during the dry months.

We've had some meetings with Sanitary District no. 1 staff regarding the installation of flow meters at their pump stations. We've identified the pump stations that are direct connects to the force mains coming in to the treatment plant and outlined those documents that will be needed to

consider the best flow metering alternatives for each site. We will begin the same effort with San Rafael Sanitation District in the near future. As it turns out, one of the larger pump stations which is a prospect for a meter (Larkspur) is under construction. This would be a handy time for installing a flow meter there and would help serve as an example of the technical challenges involved with a retrofit and as a template for costs.

#### **Emergency Diesel Engine**

There had been some apprehension about the new air emissions rules coming out of the California Air Resources Board (CARB) regarding emergency standby diesel engine generator sets. From their view, it looks like they are trying to get some sort of control over how these generator sets, intended for emergency use, are actually used.

There is a temptation to run such a standby engine when, say, a cogeneration engine is down due to mechanical problems and there is a prospect of a big demand charge in the offing from the electric utility during peak shaving periods (which at CMSA can add \$13,000 to the monthly costs for a 30-minute absence). At CMSA we've always complied with the current regulatory limit of 200 hours. However, it is easy to see that the Air Board really has not had the resources to track all of these standby diesels so it becomes understandable that there may be renegades running their standbys in excess of the regulatory limit.

We invited an engine specialist in from Advanced Engine

Technology Company (AETCO) who looked at our engine while it was running for several hours and told us it was "like new." The Cummins diesel has only a few thousand hours of run-time over the last 20 years. While we've not yet received the report, they have recommended that we stay with what we have and not invest in retrofits or replacement.

Older engines are also big emitters of diesel particulates in the exhaust. A single engine the size of CMSA's can emit as much as a dozen big semis on the road. As a result of these concerns, CARB is reducing discretionary (meaning non-emergency) run time from 200 hours per year to 20 hours per year. After some thought on this by staff and consulting with AETC, we've decided we can live with the 20-hour limit. There are no run-time limits for emergency operation of the standby engine. The cost of a retrofit would have started at about \$40,000. A replacement would cost somewhere in the vicinity of \$150,000 to \$200,000.

## ENVIRONMENTAL SERVICES

### Potential Copper Exceedance

Our NPDES permit has a monthly limit for copper that has been exceeded on two different occasions. Our April sampling and our March sampling showed levels that exceeded our permit levels for our monthly average values. Our permit limit is 13.1 ug/L and our two sample results were 17 and 16 ug/L. We normally sample for copper on

a monthly basis as required in our permit, but we sampled twice in April because of an unknown problem that occurred in our bioassay testing. Our early April sample was 3.6 ug/L, which is the normal average copper concentration. We are investigating the possible sources of copper that could have resulted in the elevated values. The influent composite samples for the two samples did not show elevated levels of copper. We are investigating a possible plug flow that the sampler did not catch, a hauled waste sample, our metal platers, and the chemicals we are adding at the plant. There were no process changes or chemical addition changes that appear to be the cause, but we are analyzing the in-house chemical batches received.

### Bioassay Test

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. Our first bioassay in April resulted in a 20% survival of the rainbow trout that we use to test our effluent. We repeated the bioassay the second week in April and we had 100% survival. We investigated all sources of toxicity in the plant and could not find an identifiable problem that caused the bioassay failure. We sent effluent composite samples out for metals and organics and found no sources of toxicity for the compounds being tested. There is the possibility of another short discharge of a toxic compound that impacted the bioassay. This is a possibility because the fish died quickly

over a short time period and 20% of the fish survived indicating a toxicity of limited duration and concentration.

### Lab Internship

The internship from Academy X at Sir Francis Drake ended on April 8. Alex did a short presentation about what it is like to "have a job." He discussed what it is like to interact with people in a professional setting and be around the same people all day.

### LGVSD Assistance

Bob Adamson has been assisting LGVSD with a commercial discharger that services water softening tanks. They use a very salty solution to regenerate the water softening tanks and the regeneration generates a discharge that exceeds the chloride limit that LGVSD has established for water reclamation, and also exceeds their zinc limit. LGVSD asked us to generate a cease and desist order and a compliance order. Bob has been working with the discharger on developing a compliance schedule and LGVSD intends to issue the compliance order with 90 days to submit a compliance plan and an additional 90 days to achieve compliance.

### Water Reclamation

We have been working with Marin Sanitary Service and Marin Municipal Water District to develop a program to provide reclaimed water for Marin Sanitary for dust control at their local transfer station.

We have a convenient filling station near our headworks, have determined that we can fill a 2000 gallon truck without impacting our treatment processes, and that we can meet Title 22 reclaimed water disinfection requirements.

This project, if implemented, will require additional daily bacteriological testing of our reclaimed water, and reporting of Biochemical Oxygen Demand, Dissolved Oxygen, and water usage to MMWD. We can supply the water under MMWD's existing reclaimed water permit with the Regional Board. MMWD will be responsible for enforcing the requirements with Marin Sanitary for hauling reclaimed water and ensuring that it is being used for dust control.

## INDUSTRIAL WASTE

We are currently looking for sources of copper from our dischargers and will continue monitoring Specification Chromium. We are waiting for closing dates for that facility since they have the potential to discharge copper and other metals into the sewer that would impact our permit. We continue to use a 24-hour composite sampler to monitor discharges from the facility.

In order to further investigate metals coming into the plant we will start collecting additional samples from our hauled waste loads and run samples for copper and some additional metals. We have done an assessment in the past and determined that trucked waste

accounted for approximately 2-3% of the metals coming into the plant and were not a concern at that time. We will update information on the trucked waste and assess possible impacts.

## OPERATIONS

### Certification Exams

5 operators have taken their certification exams and are waiting for the results. They are: Sandi Batis OIT, took the Grade I test, Virgil Sevilla OIT, took the Grade III, Steve Kelly II, took the Grade III, Jean Saint-Louis III, took the Grade V test, Chris Finton III, took the Grade V test.

### Nitrate Dosing Study

The nitrate stations are now in service for hydrogen sulfide control in collection system. A 72-hour sampling test was conducted to determine influent nitrate levels and from this we were able to lower dosing rates 26%. The reduction will decrease the ill effects of off-gassing & floating sludge on our primary clarifiers ( the most notable side effect to over-dosing).

### Polymer Testing

We are continuing to have polymer vendors test their emulsion products with our new centrifuges. So far there have been two vendors and neither have not been able to meet or exceed the performance of the mannich polymer we currently use. There is another vendor looking to come in this month to try his product. Our goal is to find a polymer with the same performance at a cheaper cost or one with better results, while

maintaining or improving on the polymer usage in the dewatering process

### Bench Marking Work Plan

A plan is being drafted that will provide an indication of the efficiency of our current operating procedures for each treatment process. Information that is gathered during the bench marking study will be used to optimize our treatment processes by identifying what we are operating well and where improvements can be made. Once areas of improvement are identified, studies will be conducted in order to prove or disprove theories for improved performance.

### Process Control Team

The Process Control Team is comprised from the various work groups at CMSA. Their purpose is to evaluate suggestions that hopefully will enhance the way we conduct our business. Ultimately the goal of the Process Control Team is to achieve optimum performance from the treatment process and plant personnel alike. The teams objectives are as follows:

- Cost savings over the previous mode of operation
- Improved process performance
- Reduction in labor costs
- Increased reliability of service

## MAINTENANCE

### D.O. Analyzer Evaluation

I/E is currently testing a dissolved oxygen (DO) probe that uses the fluorescence of a film that is in contact with the water. This new technology requires fewer man hours for maintenance and seems to hold a more accurate reading. The D.O. measurement is used in the control of our aeration blowers, one of the heaviest power users in the plant.

### Belvedere Telemetry

New PLC's and radios have been installed at the pump stations in Belvedere. Data is being collected from the remote stations and is being concentrated at the main station. CMSA is starting to receive the data at the plant. Graphics and a database for historical information will need to be constructed at CMSA. The primary benefit of radio telemetry include increased reliability as compared to phone lines.

### Miscellaneous Process Control

The bulk polymer storage tank level information and the dissolved air flotation (DAF) tank flow data has been added to the process control system. It can now be monitored and alarmed from any work station in the plant.

### Miscellaneous Maintenance

SD#2's Boardwalk A&B pump station's exteriors were painting.

The 12" valve on primary clarifier # 1 tank drain, A side, was replaced and its copper

grease lines were replaced with stainless steel.

The Waukesha spark plugs and oil were changed, the engine was emission tested, and repairs were made to the exhaust system.

Repair work performed in the Boiler Room included changing two 4" butterfly valves on the boiler feed pump system and replacing all four pressure reducing valves on the boilers.

Preventive Maintenance activities at Belvedere Stations included installing new 4" check valves at station 8 and one 6" plug valve at station 5.