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# CMSA Monthly Report

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Central Marin Sanitation Agency

March 2004

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## GENERAL

### CWEA Presentation

The California Water Environment Association (CWEA) Annual Conference is rapidly approaching. This April, Central Marin Sanitation Agency along with Kennedy/Jenks Engineering will be presenting "So You Want to Buy a New High-Speed Centrifuge?". Leading the discussion, presenters Chris Finton, CMSA, and Joel Faller, Project Manager Kennedy/Jenks, will be focusing their **Session 32** dialogue on the procurement phase of our recently completed Dewatering Improvement Project. Salient discussion points during this thirty five minute presentation will include a brief background on CMSA, our main objectives for the project, project needs, the procurement process, and lessons learned while selecting a modern high-speed centrifuge unit.

### Security – Front Gate

The front gate is back in service after the installation contractor added ladder trusses and reinforced stops to prevent lateral gate movement and overrunning of stops. The gate is no longer susceptible to falling off the track, although additional bracing is needed for the gate guides. Installation of additional bracing will be coordinated with the installation contractor.

The light standard to illuminate the gate was installed this week and should be operational soon.

### SD#2 Pump Station Contract

Staff has been working with the management from Sanitary District #2 to revise and update the 1985 contract under which CMSA operates and maintains their wastewater pump stations. The revisions capture the current practices, service levels, and District assets. The contract form has changed significantly and both CMSA and SD#2 believe the revised document is comprehensive and significantly improved. We will be bringing this Agreement to the Commission in April for approval.

### Wet Weather Operating Procedures Manual

A process control team (PCT) comprised of operations, laboratory, and maintenance staff was recently formed with a charter to continuously evaluate the operation and performance of the treatment plant's equipment and processes, and make recommendations on possible improvements. One of the PCT's initial projects was to create a variety of guidance and policy documents for monitoring, staffing, and operating the treatment plant during the peak wet weather events when our treatment and hydraulic capacities approach and exceed their operational limits.

They have created a wet

weather monitoring program, a wet weather standard operating procedure, and a staff call-in policy specific to the wet weather season. We recently hired CH2MHill to work with the PCT to develop a comprehensive procedures manual that will include the above documents and the Kennedy/Jenks outfall hydraulic analysis and the results of the Nolte forcemain analysis. The manual will provide clear guidance to staff on the best management practices during peak flow events.

## BUSINESS SERVICES

### Strategic Business Plan

With the award of the Strategic Business Plan (SBP) at the March Board meeting, we have executed the professional services agreement with Red Oak Consulting and finalized the project schedule. There will be quite a bit of activity in April that includes the kick-off meeting with our strategic planning committee, internal interviews of about 1/3 of our staff, external interviews of our member agency managers, staff awareness meetings, and the Visioning session with the Commission.

The goal setting and strategic objective workshops with the planning committee are scheduled in May and June,

respectively. Each will have a subsequent focus group meeting with staff that are interested in participating and contributing to the SBP development. We intend to bring the draft SBP to the Commission for review and comment at the July Board meeting and thereafter begin an implementation phase. The final plan should be completed and ready for adoption in the fall of 2004.

### **Temporary Manager**

With the resignation of the Business Services Manager in February 2004, a new temporary finance person, Robert Niccolai, was hired on March 1, 2004 to assist the Agency. Robert is actively working on the FY 2005 & 2006 budget and providing human resource consulting.

### **Budget**

The FY 2005 & 2006 budget is underway and on schedule. The budget format has been revised this year to include budget information by department, replacing the previously used consolidated Agency budget format. The operating budget detail and summary information is complete as well as descriptions for the individual accounts. The capital budget is currently in progress. A draft budget is scheduled to be presented to the Commission on May 11, 2004.

### **Asset Management**

The maintenance management module of the

Asset Management program continues to be populated and is over 80% complete. Assets continue to be identified and entered into the database. The Preventative Maintenance registry is approximately 33% complete. Preventative maintenance tasks must be manually converted into the new system. Over thirteen hundred individual assets have been identified, each with various daily, weekly, bi-weekly, monthly, quarterly, semi-annual or annual preventive maintenance schedules.

### **Contract Management**

CMSA has executed a contract for 41% Ferric Chloride Supply with Kemiron, who was the low bidder at \$390.39 per dry ton. This is a 6.3% increase over the prior contract. The only other bid for Ferric came in at \$525.00 per dry ton or a 47% increase over the prior contract.

CMSA has executed a contract for Biosolids Land Application with Synagro. The contract price of \$18.56 per wet ton, represents a 16.2% increase over the prior contract. Land application continues to save CMSA several dollars per wet ton over disposal costs at the landfill. Biosolids will be applied at the Lakeville agricultural site in Sonoma County between May and October of each year.

CMSA's Hydrogen Peroxide Supply contract will expire April 28, 2004. Six bid packages have been sent out to potential suppliers. A bid advertisement was also placed in the Marin Independent Journal. A pre-bid tour was conducted on March 25,

2004, and the sealed bids will be publicly opened on April 5, 2004.

## **CAPITAL PROJECTS**

### **Hydraulic Model**

The professional services agreement with Nolte Engineering has been executed. Their scope includes developing a hydraulic model of the forcemain portion of our collection system, running the model with a few worst case operating scenarios, and preparing a report of the results.

The project's objective is to construct an accurate computer based model that will initially be used to determine that amount of wastewater that can be pumped to CMSA with the existing installed pumping capacity at our member agency's pump stations. The model will be provided to us and we will share it with our members for their future use in collection system planning, evaluation, and design.

Nolte is currently in the process of gathering the pipeline and pump information from our member agencies and intends to have the model built by late April with the initial results available in early May for inclusion in our Wet Weather Operating Procedure Manual. The final report and

model is expected to be submitted in June.

### **Cogeneration**

The work activity has dwindled down to a single electrician on-site, and he may be departing by week's end. This resulting lull has been looming for a long time and is no surprise. The biggest problems are the control system and interconnections with the utility. The submittal by the engine vendor has finally been provided and is in the hands of PG&E reviewers. Though it is still possible for the engine vendor to be making progress in assembling the controls package, they have not provided a delivery date.

There are still mechanical components that need to be provided as well. The two remaining heat exchangers will be delivered at the end of April. There are three heat exchangers altogether. One, a floor-mounted "plate" heat exchanger, is for transferring engine-generated heat to the CMSA hot water system. This exchanger has been delivered installed. The others are 'tube' style heat exchangers which are wall-mounted and allow the various cooling loops to shed their heat. The tube exchanger heat is not salvaged and used by the plant hot water system.

The sludge gas particulate filters will also be delivered at the end of April.

Then there is the heat recovery tower. That unit was delivered this past month and is ready to

be permanently installed. The tower transfers heat from the exhaust at about 1,000 degrees Fahrenheit and transfers it to the primary cooling loop or "jacket water" liquid which is then delivered it to the plate heat exchanger. This cooling liquid goes into the tower after it has been through the engine and picked up heat from around the cylinders.

After the heat recovery tower and silencer (aka muffler) were delivered the contractor discovered that the muffler, if installed as designed, would stick up through the roof of the engine room. We solved this problem by deciding to put the muffler up on the roof (as suggested by staff). The silencer has no moving parts, does not require maintenance, and is made of stainless steel so the roof is a practical and convenient location for it. The silencers installed on each of the two existing engines have never needed maintenance in their twenty years of service.

We expect the mechanical subcontractor to return soon to complete the installations of the heat recovery unit, exhaust piping, and silencer. Then it will be hurry-up-and-wait on the controls.

### **Emergency Standby Power**

A decision needs to be made on the adequacy of allowable maintenance run-time for the emergency diesel generator set. The California Air Resources Board (CARB) has passed regulations that give a January 1, 2005 deadline for compliance with a 20-hour per year limit on

older engines. There are choices which we are evaluating. CARB will allow more run-time as described in a three-tiered table depending on what kinds of retrofit systems are selected. Thus far our staff (like those at many facilities) feel the need to exercise the engine more than 20 hours per year. In addition to retrofit, we'll also be looking a possible emergency engine replacement. While that option sounds somewhat ominous in light of our current project, the cost of such replacement does not involve the complexity of heat recovery, gas cleansing, and controls of the cogeneration system.

## **ENVIRONMENTAL SERVICES**

### **Lab Director Appointment**

Nancy Evans was the laboratory director for CMSA since we began operation in 1985. Prior to her retirement in August 2003, we conducted an internal recruitment for an interim lab director. Our intention was to provide staff with the opportunity to compete for this upper management position with the possibility of a permanent appointment if the top candidate demonstrated competence in this challenging role.

Robert Cole, a Laboratory/IW technician, was the top candidate and has been in the interim position for about eight months. During this time,

Robert has overcome the steep learning curve of the position, contributed to many of the organizational initiatives we have recently started, and has clearly performed at an exceptional level. He was appointed into the permanent position, which will take effect April 11, 2004.

#### **Laboratory**

Our NPDES testing for March showed no violations. We had 100% survival of the fish in our bioassay this month with the overall effluent quality very high. Even with two major rain events that caused flows to exceed 90 MGD, we met our 85% removal requirements for suspended solids and BOD.

#### **Plant Tours**

Every year, Redwood High School's science program has 4 to 6 classes that tour CMSA. It is our largest outreach to high school students with 100 to 150 students touring our facility. We had 50 students from Redwood High School tour CMSA in March. Last month we gave a tour to two advanced placement science classes for seniors and this month two environmental studies classes for juniors learned what we do at CMSA.

#### **Lab Internship**

The internship from Academy X at Sir Francis Drake will be ending in April. Our intern this year is Alex Williams who has learned what it is like to work in a laboratory environment at a wastewater treatment plant

and what careers are available in this field. He has been compiling data to study the increase in suspended solids at CMSA, as a result of the increase in flows during blending periods and the relationship between volatile solids and high flows. The conclusion of Alex's study will be included in the CMSA Monthly Report for April.

#### **LGVSD Assistance**

Bob Adamson and Robert Cole met with the management and laboratory staff at LGVSD to discuss their pollution prevention program for 2004 and a Fats Oil and Grease (FOG) program they want to initiate.

LGVSD had a pH permit violation that was caused by a very acidic slug of wastewater influent. They believed a pool service facility had discharged a large volume of concentrated acid, and asked that we investigate. Bob Adamson and Jennifer Joe (LGVSD) visited the pool maintenance companies in their service area to discuss what they are allowed to discharge and if they had any accidental spills or problems. The two pool supply and maintenance companies claimed to have had no chemical spills and do not discharge highly acidic pool chemicals.

We will be starting a survey of all the food service facilities in their service area to determine what pretreatment equipment or FOG removal equipment they

are using and what pollution prevention they do to minimize release of FOG to the sanitary sewers.

#### **Regulatory News**

Bob Adamson attended a one-day CWEA workshop on "Practical and Proactive SSO Prevention." Speakers discussed pending NPDES permit requirements for sanitary sewer collection systems. The requirements are expected to be very similar to the "Capacity, Maintenance, and Operations Management" (CMOM) program proposed by the USEPA several years ago. Various aspects of implementing a CMOM program were discussed, but no clear implementation dates or when it will be required were established.

#### **Industrial Waste**

Specification Chromium Corporation, an electroplating facility in San Rafael that has received enforcement actions twice in the past for violating their discharge permit, has stopped doing business and is mainly transferring accounts to another company outside of Sacramento. They are treating their process tanks and sending the waste to their evaporation unit due to the fact that we have plugged their treatment unit's process drain because its waste could not meet our discharge requirements. We are continuing our manhole monitoring until they have permanently and completely moved out of their building.

We have a compositor in the manhole 24 hours a day seven days a week taking random samples due to the potential to impact our discharge limits and treatment processes.

## MAINTENANCE

### Belvedere Pump Stations

#### Telemetry

Kit Groves, our Instrumentation System Supervisor, is assisting the contractor hired by the City of Belvedere to convert the telemetry systems for the Belvedere Pump stations from telephone lines to radio telemetry. The contractor has completed the installation of the Programmable Logic Controllers (PLC's) and radios. Our staff is in the process of wiring the newly installed PLC's and radios. The wiring will be completed and the new telemetry system ready to test by the end of April. Testing will be conducted by the contractor.

#### Maintenance Projects

Some of the minor projects completed this month include repairs to the influent gates on the #1 grit tank and the #5 primary clarifier. The number three primary scum collector was rebuilt and the #5 primary clarifier tank drain valve will be replaced. Staff is scheduling the replacement of the 4" check valves at three of the Belvedere pump stations.

#### Lead Mechanic Recruitment

Congratulations are in order for Mike Gardea, a Maintenance Repair III, recently promoted to the Maintenance Lead position as a result of the in-house recruitment. Mr. Gardea has been with the agency for four years and moved up to a Maintenance Repair III position after successfully passing the California Water Environment Association Grade III Mechanical Technologist test.

## OPERATIONS

#### Bench Marking

Operations and laboratory staff have completed several spreadsheets that enable staff to track and monitor treatment costs and efficiency. Al Fiore, the Process Control Coordinator is creating a summary spread sheet that will summarize, on a monthly basis, the various process removal efficiencies.

#### New Operators-In-Training

The Operations department has two new Operators-In-Training, Virgil Sevilla and Sandy Batis. Both have prior experience and/or training in the water/wastewater fields. Both received their OIT certificates from the State Operator Certification Board on Friday, March 26 and can now make process changes as opposed to being observers only.

#### Operator Certification

Two Lead Operators, Chris Finton and Jean St. Louis, will be attempting to pass the highest attainable wastewater

certificate in California, a Grade V Certificate, on April 3, 2004.

Another operator, Steve Kelly, will be taking the Grade III exam on the same day. Operators with a Grade III certificate or higher have the certification requirements to be shift supervisors and can continue to move into management positions as opportunities become available.

An issue of concern in the wastewater field is the number of retirements during the next five to ten years. It is anticipated that over half of the currently certified operators will be retiring during this time frame. Having operators with the initiative to continue to upgrade their certification levels will provide a pool of operators with certification levels needed to fill operator supervisory positions and higher management positions.

#### Frequency of Effluent Testing

During the wet weather season laboratory staff have increase the frequency of effluent testing to help ensure permit compliance during the rainy season.

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